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Address

CO-ORDINATED SPECIALISM IN PUBLIC HEALTH WORK.*

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MINNEAPOLIS.

DIFFICULTIES.

In America two causes are operative in rendering it difficult to protect the health of the public. One is the lack of real knowledge on the part of the public in regard to the scientific truths which underlie the conservation of its chief asset, viz., its health; and the other is a tendency in the preservation of individual freedom to lose sight of our obligation to respect the rights and privileges of others who may be less assertive.

It is probable that each of these factors may operate as the cause of the other and it is difficult to discuss one without encountering complications dependent on the other. Endorsement of public health protective measures in a general way by an individual has usually the mental reservation that they be so applied as to safeguard him against his neighbor but not in such a manner as to impose hardship on him for his neighbor's benefit. The spread of accurate knowledge and the universal application of the golden rule are both to be advocated as necessary to secure permanency in the support by the public of the provision and enforcement of logical regulations which at present is only to be had under the stress of great fear, and is then but temporary and spasmodic. Individuals and families are willing to submit to nearly any course of treatment or to any restrictions imposed when the fear of sickness or death suddenly confronts them, but when the strain is removed they forget the lesson learned and the promises made. The public reacts in the same way and is willing to submit to discipline only when the necessity for it is plainly demonstrated by epidemics with high mortality or in the face of striking disaster. If such times could be utilized for the formulation and passage of logical regulations and the public could be induced to support the continuous administration of such measures and to take the same interest in the protection of its health as of its wealth or honor, progress would be rapid. It becomes necessary to convince the public, therefore, first, that health is its most important possession; secondly, that it can be conserved and improved just as accurately and certainly as any other asset; and, thirdly, that preventive medicine is immensely cheaper and more efficient than curative procedures.

In countries like those represented in our association where the right of the individual is the primary consideration, there is a particular prejudice against the assumption of special or expert knowledge on the part of individuals or groups of people, and yet it is necessary in the government of people by themselves that there should be specialization so that responsibility may be wisely placed and the greatest good to the greatest number insured. There is nothing, however, in which individual right to opinion is so rigorously asserted as in the matter of health; and through the medium of the press and in daily converse all kinds of peculiar and often pernicious views are voiced. The semi-mysterious seems to be attractive rather than the logical and those who are really interested in private welfare and public health are often tempted to long for a temporary monarchical form of government or military dictatorship if thereby the suppression of baneful theories of the cause, prevention and cure of disease and the advertisement of doubtful and dishonst remedies could be secured. This is, of course, impractical, but in lieu of it, the appointment of competent boards nominated by the leading national or international scientific, medical, public health and engineering societies so as to permit the preparation and censorship of technical material in popular form for distribution through the Associated Press and government bulletins, would result in the gradual education of the public. The substitution of real scientific truths, given in simple language so that children might readily understand, for the so-called "physiology and hygiene" now provided by some localities as textbooks, would prepare our coming citizens to understand and protect themselves. Were such a comprehensive system feasible in the countries represented by our association, the question of the education of the public and of securing enthusiastic support for public health legislation and its administration would probably be solved.

DEGREE OF RESPONSIBILITY OF PHYSICIANS.

The total burden of responsibility should not be placed, as it frequently is, on physicians Their eager support of measures intended to safeguard humanity is usually misunderstood and misjudged because their honesty of purpose is questioned when they endorse methods which, if logically carried out, will diminish their financial resources. As a physician not engaged in active practice, I wish to pay tribute to the practicing members of the profession by asserting, without fear of successful contradiction, that they have no superiors in unselfish devotion to their fellowman, often in the face of a total lack of appreciation, and too frequently in the face of suspicion or active opposition.

The practicing members of the medical profession who stand highest in their particular lines are the most enthusiastic, honest and earnest supporters of public health protective measures, and urge most strongly the necessity of special qualifications and the broadest and most thorough training for those who are to be made responsible for their intelligent administration. They are the first to realise that their own training and experience, being largely in the direction of curing rather

* Presidential Address, American Public Health Association, Boston, Sept. 28, 1905.

than preventing disease, must be supplemented by all the other allied sciences and that public health work has become a profession or a specialty which involves the necessity of a knowledge not to be obtained until in very recent years in the medical colleges, universities, engineering and technical schools.

A glance at the program for this meeting will give some idea of the complicated mechanism and careful training in varied lines which are required in the care of the health of the public; and their necessity should be recognised and demanded by the public. This most important matter should not be left, as it often is, in the hands of those whose knowledge and ability is along political rather than sanitary lines. Sanitarians have been far too little appreciated, not only by the general public but also by the medical profession. The general public is inclined to regard a public health office of any kind as a "political plum." Years of experience, each one of which adds to the knowledge and value of any official, are apt to count for naught. The medical profession, on the other hand, too often regards a physician who is willing to undertake work of a particularly arduous character which essentially differs from and precludes him from general practice and yields little financial return, as lacking in ambition, independence or foresight. Such posts have been, therefore, unattractive, since the remuneration is usually small and the loss of medical practice and prestige is likely to be as certain as the tenure of office is uncertain. Reform in this direction is growing. Universities are preparing to co-operate with boards of health in providing special training. The time is now ripe when the public should demand that those entrusted with the care of its health should have special training and higher remuneration.

It is absolutely necessary to place such work on a sure and firm foundation. The value of experience already gleaned should be recognized and every community should try to retain the services of officials who have shown their ability and faithfulness in the various branches of public health, as well as other public work. The city in which we meet has set an excellent example in this respect and is to be congratulated on her appreciation of the initial ability, integrity and wide experience of the chairman of her board of health, who for over thirty years has devoted his life to the welfare of Boston; has been a leader in our association almost since its organization, and was once its president. We of Minnesota have piratically annexed the director of the Boston City Board of Health laboratory and are still unrepentant, being selfish enough to want the best.

SPECIALISTS NEEDED.

The older method of securing experience by experimentation on the public should be superseded by requiring preliminary special training at universities and by boards of health, so that, while retaining for the good of the public the service of those already trained and competent, they may be reinforced and, when necessary, succeeded by those who have received such special training. Undoubtedly, the public should demand the possession of special qualifications both in the executive and in the other technical branches of public health service. Elective and appointive positions should be filled by those who have received special training and, as evidence of their special qualifications, have degrees or diplomas granted by competent authorities, as in Great Britain, where a diploma of public health is demanded of all medical health officers. Bacteriologists, chemists, engineers and other technical men should have special training in public health work before the responsibilities of public service are entrusted to them. A knowledge of the clinical manifestations of disease is imperative, but often much more than clinical experience and ability is essential. While in scarlet fever, smallpox and certain of the infectious diseases it is nearly always possible to diagnosticate the condition present and by so doing to protect others from infection, there are a number of diseases in which clinical observation alone proves utterly insufficient.

As illustrating this, diphtheria may be mentioned. It is the presence of diphtheria bacillus which constitutes the danger of infection. Preventive measures should be and are demanded when this bacillus is present. Bacteriologic methods have very greatly shortened the necessary isolation period. In diphtheria it is impossible to base the necessity for protective measures on the local condition of the throat or the general or constitutional manifestations of disease. For this work, and many other branches also, competent bacteriologic advice must be at hand. It is not the typical cases which cause serious trouble to the sanitarian, but rather those in which the diagnosis is unsuspected or obscure. In many conditions the laboratory is able to afford most valuable aid. A laboratory method of diagnosing smallpox has been evolved by Howard in the further pursuance of the classical researches of Councilman and his associates. The dread of cholera has to some extent disappeared by a better understanding of its cause and means of transmission. Here again bacteriologic methods are used almost entirely for diagnosis and the only preventive therapeutic interference which has been utilised is that of Haffkine, whereby cultures of bacteria are used for inoculation in order to induce immunity. The wonderful revolution in protective methods against yellow fever is well known to all. The work of Reed, who was vice-president of our association at the time of his death, can be credited already with the saving of thousands of lives, and the commercial benefits which have accrued to the American continent can scarcely be estimated since a prolonged period of quarantine and universal disinfection have been shown to be unnecessary and illogical. It is unfortunate that the wonderful efficiency and coordination of the methods employed by the United States Army in Cuba could not have been fully utilised in the present epidemic, but we Americans do not like discipline and as a result of a division of the responsibility and lack of far-reaching, supreme authority in the beginning, the ignorance and fear of the masses have lost our country many lives.

The startling results claimed for Japan in protecting her soldiers against disease in the field do not appear to be so much dependent on superiority in scientific methods as on a clock-like discipline and patient, far-sighted attention to detail. In the Japanese army the authorities seem to respect sanitary knowledge and to be willing and anxious to place responsibility on the sanitarians and medical officers, who are left supreme in their own domain. A similar policy, with careful selection and adequate recognition of the sanitary officials, would be found to be well worthy of emulation in Panama.

In malaria, practically the same measures are to be employed as in yellow fever, both of them involving the necessity for biologic knowledge, as it is very important to know and recognise the different members of the mosquito family. The activities of flies, bugs, vermin and other such agencies in the spread of disease have to be recognized and familiarity with general biologic

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principles is demanded on the part of the health official. The chemist must be utilised in the study of foods, water and sewage as they relate to the health of the public. Engineers now are specially trained in public health lines so that municipal and sanitary engineering are taught in certain of the technical schools and universities. The city in which we meet furnishes many communities with experts along such lines through the Massachusetts Institue of Technology. The Massachusetts State Board of Health by its scientific investigations in water supply, sewage disposal, food adulteration and kindred problems has won the respect of sanitarians throughout the world, not only by the methods evolved, but by results achieved. With the certain knowledge now available through our sanitary clinicians, statisticians, chemists, engineers, bacteriologists, biologists and other specialists, it would appear to be a relatively simple matter to conserve public health, but there are certain other factors which must be recognised and dealt with.

COMPLEX MODERN LIFE DEMANDS CO-ORDINATED PROTECTIVE EFFORT.

Apart from the difficulty of establishing satisfactory disciplinary measures in our free countries, it must be remembered that life in this age is extremely complex. Our cities have grown enormously. Facilities for rapid transit now make it possible for individuals to reside many miles from their work. Groups form and re-form many times a day, and it is impossible to know the exact previous environment of each individual who helps to constitute a particular group. Rapid transit means increased responsibilities for sanitarians. The grouping together of individuals in schools, colleges, religious institutions, offices and shops calls for a study of public health along social economic lines. Specialism in commercial and professional life is so great that we have diseases incident to occupation. It is very apparent that the difficulties of protecting the public against itself are increasing every day, and that both highly specialised and very broad general knowledge must be available in those who are united in this work. No one individual can acquire, so as to be able to utilise, all of the specialised knowledge in these various lines. It becomes necessary, therefore, to have all such branches available and co-ordinated. A short consideration of some features of necessary co-ordination may not be amiss. While we are often described as a practical people, impatient to utilise results rather than to acquire the original scientific data by tedious research, the description is true only in part. Anesthesia by ether, the determination of the causative factor in yellow fever and many other both scientifically and universally important discoveries have had their origin here. The brilliant work of Americans in the study, prevention and cure of tuberculosis is universally recognized, and Theobald Smith, Ravenel, Pearson, de Schweinitz, Biggs, Trudeau, Bowditch, Knopf, Flick and others are household names the world over. The ideal co-ordination of effort in the fight against this dread disease has been secured, and the National Association for the Study and Prevention of Tuberculosis will doubtless be the means of stimulating local effort in the utilization of every honorable means to educate and protect humanity. This kind of work shows the power and ability of our people, and it may be said that no countries excel those of America in the application of scientific methods to the protection of public health. The vastness of the countries and the possession of potential rather than actual wealth in the newer communities render the work more difficult, but as a compensation there is a corresponding freedom from the chains imposed by precedent and tradition. We are in the process of manufacturing these latter.

RELATION OF EXECUTIVE TO LABORATORY WORK.

Laboratories are utilised almost universally in America in public health work. There are, however, many misconceptions in regard to the function of the laboratory in public health service. Primarily, the work undertaken by such laboratories should be in direct relation to public service, and not a means of gratifying private curiosity or of affording information which is of value to individuals alone. Laboratory work should be extended wherever possible, so as to afford guidance to executive action. This does not at all mean a limitation to pure routine. Research is necessary, in fact demanded, along many lines. It should have for its object the study of conditions in order to obtain information which may serve as the immediate or future basis of executive protective activity and legal restriction. Universities, special institutions for research and private and hospital laboratories are available for the study of diagnostic and curative methods applicable to the individual rather than to the public, but it is in the public health laboratory that research along public health lines must be done.

In municipal health work, the laboratory is in close contact with the problems to be studied, but very frequently it is necessary for the laboratory men to leave the laboratory and to accompany executives, inspectors or others, so as to see and know the actual existing conditions and guide their work accordingly. In state or federal work, it is often imperative for the laboratory worker to visit the locality under investigation. It is impossible, in most instances, to render valuable service or to give intelligent advice based on shipped specimens and meager data. Nor is it economical to spend days, weeks or months in working at problems which have been entirely obscured or at best rendered vastly more difficult by lack of foresight or of specific knowledge on the part of those for whom the investigations are to be made. For years our experts have endeavored to show the impossibility of giving specific information in relation to the sanitary quality of waters or the location of contaminating foci, and to afford advice involving structural and other details by the examination of samples collected and shipped to the laboratory. The delay between collection and analysis has been an element of error, and even more so in sewage work.

Certainly in bacteriologic work it would seem strictly proper to begin the analysis of water and sewage in the field. In the examination of blood for *Plasmodium malaria*, of sputum for *B. tuberculosis*, of blood for the presence or absence of the Widal reaction in typhoid fever, and of cultures taken from the throats and noses of suspected diphtheria cases and in a number of other lines including rabies, glanders, anthrax and actinomycosis, it is usually possible for the laboratory to examine and report on shipped specimens where intelligence has been exercised in their collection and transmission. At best, however, it is not ideal, because the value of data is frequently not appreciated by the person who desires the examination.

Furthermore, to be of value to public health administrative bodies, each piece of work should be capable of utilization as a guide to future work. Every individual who utilizes a public health laboratory for securing information should feel under obligation to make the necessary return for such gratuitous expert report, by

supplying all data in regard to past and present conditions and subsequent history of events so that the whole may be recorded in such form as to be of permanent value to the particular locality and to sanitarians in general. No work on the laboratory or executive side should assume such routine form that it ceases to possess interest. The research spirit should so dominate the work that even in matters of so-called routine observations and records are made in such manner as to afford the possibility of arriving at new and conclusive views. Boards of health and officials in whom this research spirit is lacking are sources of danger to their communities.

When so much emphasis is laid on the use of scientific methods in medicine and public health there is danger that in the recognition of the value of such laboratory investigation and minute technical observation the absolute necessity for sound judgment and ability to appreciate relative values of the points brought out by such precise methods may be underestimated. It is too often assumed that in the various chemical, bacteriologic, biologic or mechanical tests the correct information and conclusions are rapidly and almost mysteriously attained. Many of the methods are most laborious and time-consuming. The microscope, the culture tube and the chemist's balance and retort are extremely delicate implements, which bring to light many new and sometimes complicating factors. Really, at times they almost seem to increase the difficulties and to lead away from practical results. Here is where the necessity for sound judgment, so erroneously designated "common sense," becomes most important, and where a knowledge of all local conditions must be considered and correlated with all other data. The only remedy for apparent discrepancy is more data and further study.

SCOPE OF PUBLIC HEALTH WORK AND METHODS.

In regard to the problems undertaken by sanitarians and laboratories, as a general principle the epicurean doctrine must prevail. Questions which involve the welfare of many should receive consideration before those which concern the interests of individuals. Problems for whose solution there seems to be a reasonable hope must take precedence of those in which there appears to be little likelihood of arriving at definite results.

Public health authorities established for and by the whole people should be independent of the coercion of individuals. Because a board of health is a public institution is no reason why any individual should demand investigation of the problems which interest him alone. Those who are actively engaged in public health service should be selected primarily on account of their fitness and because the people have confidence in them. To them should be entrusted not only the carrying out of the necessary work, but the formulation of that work. Sanitary laws and ordinances either should be formulated by health authorities or submitted to them for approval or modification and bodies whose duty it is to enact legislation should be guided by those who are entrusted with the protection of the public health. It is illogical to place individuals in positions of trust and responsibility and to hedge them in by suspicion or by perverse or inefficient legislative measures so that the successful carrying out of the work is impeded or prevented. Responsibility without adequate authority is farcical.

It is apparent, as we have seen, that nearly every phase of human knowledge must be utilized in successful effort to protect the health of the public. Usually on one individual the administration of the work falls. This being so, it is absolutely essential that he keep in touch with the other phases of the work, and at least be versed in their principles. The composite judgment of all the available experts should be secured and included in any final opinion which the executive voices and, so far as it can be done, expert work should serve as the basis of all executive action. Importance of close contact of laboratory workers with field problems can not be overestimated. The correctness of this conclusion has been proved by an experience of several years in the State Board of Health work in Minnesota. To facilitate such work, branches of the State Board of Health laboratory are being established throughout the state. In the saving of time, the accuracy of information received and the applicability of results of laboratory investigation to the work in hand, much is gained by such means. Where branch laboratories do not exist, one or more laboratory men accompany the executive officer or his representative into the field or at times the laboratory man is entrusted with executive power. A number of state institutions and hospital laboratories throughout the state are frequently used as temporary headquarters. It has been suggested, however, that for many phases of the work a traveling laboratory which can readily be provided in a railway coach would be most advantageous, as it would permit certain laboratory work to be finished much more quickly. In any event, it could be begun on the spot and completed in the main laboratory. In general, for problems including epidemics of the various bacterial or parasitic diseases, water, sewage, milk and food investigations and other matters, necessitating the presence of the laboratory worker in the field, such as a traveling railway laboratory, sidetracked for the purpose, would be most useful in the saving of time and effort and in serving as an object lesson. The expense would be very much less than that incurred by the provision of innumerable laboratories on a permanent basis in rural districts or small towns and villages. The chief benefit secured would be in the co-ordination of effort by the authorities and the instruction of the public in its own welfare. Such a plan was utilized most advantageously by Dr. Hamilton Wright in the Federated Malay States.

Railways find it most advantageous to provide themselves and the engineering departments of certain universities with laboratory cars containing instruments of precision and facilities for observation in their important problems, such as conservation of power, the adjustment of grades and the relation of speed to expense. Commercial enterprises and government and state departments have realized the utility of traveling laboratories in agricultural education whereby demonstrations can be given to farmers and others as to the most scientific and practical methods of increasing and conserving the crop yield.

AIM OF THE ASSOCIATION.

Each one of us has a different set of problems to solve, and it would be idle to attempt to go into all the various phases of work represented in our association. Our annual meetings permit each one of us to profit by the experience of others engaged in similar or parallel work. It has been the aim of the association from its very beginning to stimulate research and to standardize methods of technical and executive procedure. With the growth of the countries represented and the gradual organization of new territory our association has kept in touch. The increased tendency to utilize methods of

science and accuracy in medicine and commerce has been shared in or perhaps led by the association in the establishment of its laboratory section. Considerable trepidation was experienced by many members for fear that in the division of the program interest might be divided. The real need which existed has been fully demonstrated by the history of the section which has shown the value to be obtained from the meeting together of technical men in the evolution and standardization of methods and interpretation of results. On the executive officer falls the necessity and responsibility of taking definite action, to suppress, eliminate or prevent conditions which are inimical to public health. The technical worker is apt to become interested rather in his methods or scientific results than in their practical application. The effect of the establishment of the section has been to interest each different worker in the problems and affairs of his colleagues in the same and other lines, and the blend has been beneficial. In this day of specialism it is necessary at all times to keep the inter-relation of the various phases of the work most clearly defined, and there is room for question as to whether the present arrangement of the program for our annual meetings is best suited to our needs. Undoubtedly we need one technical section and probably should have more. It may appear desirable perhaps to consider a greater subdivision into sections, such as executive, statistical, bacteriologic, chemical and engineering sections. Each section should include in its sectional business and program only those matters which involve technical points. The bacteriologist is interested in matters which pertain to the making of culture media, the preparation or technic of some particular stain and similar procedures, but every member of the association is interested to know the general principles which underlie these matters, and particularly interested in the results to be obtained by their application. A chemist is not necessarily interested in structural materials or the methods employed in estimating engineering problems, but chemists and all other members of the association are interested in the results achieved by engineers and the general plans and principles of the work which they undertake. The minutiæ of chemical technic are profitable only to the chemist. Executive details and legislative matters are of chief interest to those who are entrusted with the administration of such affairs in their own communities and the other technical workers are interested only in a general way, or insofar as these matters affect or complicate their work. It would be necessary, however, to scrutinize program material very carefully in order to determine whether it is of sufficiently technical character to be of interest only to a particular group of technical men, or if it is of general interest. If it is not particularly technical and deals with matters of general interest and importance, it should certainly be considered in general session. Most of the work undoubtedly should be done in joint session so that all members may participate and the meetings may continue to be the means of harmonizing rather than separating the various active factors in public health work. The ideal arrangement would consist in the grouping of allied subjects. To illustrate: A joint session on the subject of typhoid fever would be valuable. The bacteriologists might present papers dealing with such general matters as methods of isolating *B. typhosus* from various sources and the germicidal effects for typhoid bacillus of certain substances with which they may have experimented; or of their experience as to the value of the so-called Widal reaction; or of the persistence and localization of *B. typhosus* in the human body. All of those matters should be presented in the most practical way without emphasis on minute technical details. Both chemists and bacteriologists might be able to afford data concerning food, milk and such other materials in relation to the spread of typhoid fever. Engineers should participate in such a program, giving the results of their inspection and investigation of water supplies and sewage disposal. Executive officers and statisticians should give their experiences, including the use of legislative machinery, the administration of regulations and the compilation of statistics. The relation of the disease to railway travel and military life should not be overlooked. Such a method of approaching problems would enable each worker to arrive at, modify or change the point of view of his fellows, and a far greater value would be received by all than if all of each technical worker's experience and results were to be given before his particular section simply because his communication contained technicalities. These technicalities should be eliminated from the general paper and presented in the briefest possible way and usually in a demonstration form before the particular technical section to which they belong.

The American Public Health Association is the only association of any magnitude which is devoted entirely to the interests of public health. Its traditions are that it should be big enough and strong enough to meet emergencies and keep pace with or rather to anticipate advance. Every one in this age and generation is familiar with the trust method as applied to commerce. Its opponents are loud in their denunciation of the method—not because it does not succeed, but because it succeeds too well. The success of the trusts is due to the fact that every method and every agency which can be advantageously used is used. There is a complete correlation of all potent factors. Such should be the attitude of our association, and success will attend our efforts if made along these lines for the benefit of the people whom we serve.

ORGANIZATION AND PROSPECTS OF THE ASSOCIATION.

The work of the American Medical Association in the organizing of physicians throughout the United States is one of the greatest advances of the present time. This work is very largely entrusted to one of the oldest and most valued members of our association, and it is impossible to estimate the real good which is being accomplished by Dr. McCormack in persuading members of the medical fraternity to drop all points of difference and unite on those matters which are common to all and for the good of all humanity. This work of organization does not contemplate for a moment interference with other more highly specialized or technical medical associations. It will be of the greatest possible benefit to our association, which has a field peculiarly its own. It should be the policy, however of the American Public Health Association to anticipate demands for special work and special information along lines which are closely applicable to public health, and care must be taken that in our land of societies without number we do not lose because we have failed to provide a place and a stimulus for workers in all lines which directly affect our work.

There are great difficulties to be met and overcome. Not least is the instability of local organizations, and our association should at all times endorse the great value of experience and the importance of continuing competent workers in their positions. Effort should be made not only to enlist the active co-operation of every

good public health worker in America, but to retain him in active membership in our association. It is axiomatic that what is difficult to obtain is appreciated. On this principle it may be wise to consider the desirability of a more careful selection and rigid censorship of the membership of our association. Another point worthy of consideration is the effect on our meetings of selecting some central location as a permanent meeting place, provided that the educational effect both on the association and the locality visited be not lost. Succeeding meetings now may be held many hundreds or thousands of miles apart, rendering it at times very difficult for members to attend. The time of meeting also should be considered in relation to universities because of the necessity which all recognise of securing the co-operation of educational institutions in the general teaching of hygiene to all, and in the specific training which is essential for those who are afterward to engage in public health service.

The dignity and permanency of the American Public Health Association may be taken for granted, and it must continue to feel its responsibilities so that it may become advisory to the governments of those countries which constitute the association. But the question arises as to whether its present constitution which provides for an annual meeting lasting five days, with a complete interregnum of 360 days in each year, is best calculated to meet emergencies and bear responsibilities, and whether it tends to permanency of structure and administration. There are many matters which arise between meetings which demand careful consideration and immediate action.

The publication of the transactions of the association is a matter which has engaged our attention for years and is still unsettled, partly through lack of funds and partly on account of our peculiarity of organization. The question of income so that research may be fostered and possibly studentships or fellowships established for the study of specific problems, is an important matter which we should consider. I would suggest that at this meeting the association take under advisement some of the matters touched on and that the possibility of certain changes in organization be considered. To secure greater permanency of administration and for the purpose of carrying on at all times the necessary business and of increasing available funds, it might be well perhaps to consider the establishment of a board of trustees similar to that of the American Medical Association. The administration of the affairs of the association could be safely left to such a board, which should represent every phase of public health activity, and whose members should be long enough in office to ensure the carrying out of permanent policies.

Public health work in the main consists in making people do what they do not wish to do for their own good, and is certainly not a popular profession. As one of the younger members I can not but speak with enthusiasm of the work and achievements of the older members of our association, which, through their efforts, has been such an active factor in public health work for over three decades. Their motto has been to retain what is good, but to be on the watch for something better. It must be remembered that this is a work in which many of our members have been engaged for the greater part of their lives with relatively little financial encouragement and at times no appreciation of what they are doing by those for whom they are doing it. Their reward should be the contemplation of and participation in the working of a huge machine of which the constituent parts, revolving though they may be in intricate and complicated cycles, yet with no loss of energy in friction, operate for the benefit and conservation of mankind.

Original Articles

THE TABETIC FOOT AS A FACTOR IN THE ATAXIA OF THE LOWER EXTREMITIES IN TABES DORSALIS.*

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This paper, the joint production of a neurologist and an orthopedist, attempts to bring facts toward a solution of a problem hitherto considered strictly neurologic in character, with the purpose of supplying in each case knowledge which is lacking in the other. The advantages of such a combination are obvious, and in the case of this paper, as in other instances, the different points of view have tended to solve a problem which up to this time has not been considered in all of its different phases.

Fig. 1.—Pronation to a high degree. See Tracing 1, Fig. 2, showing preservation of the arch.

THE PROBLEM.

The problem set before us was, in brief, the consideration of the factors concerned in the ataxia of the lower extremities in tabes dorsalis, apart from the usual elements which have been considered the essential ones. The theories of tabetic ataxia have been considered chiefly with the view of those who believed that the ataxia was a result of disturbances in sensibility, using the term in its broadest sense, or of those who held that the origin of the ataxia was central. Our own efforts were not concerned with this side of the question at all, but strictly with the tabetic gait and factors in the causation of this gait, apart from the disturbances in the sensory nervous system. In the walking and in the standing of the tabetic there are easily two sets of factors involved, one has to do with disturbances leading to the ataxia and the other with the instruments by

* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

which the peculiar gait is accomplished, that is, the mechanical factors involved in walking and standing. This paper, then, is concerned chiefly with the mechanics of the tabetic gait as influenced or not by the mechanics of the foot, ankle and, to a lesser extent, by those of the knee joint.

As a consequence of the observations afterward to be recorded, an effort was made to correct the obvious errors in the mechanics of the foot and ankle used in walking by devising an improved shoe. This has developed gradually as the correct mechanical principles involved in a tabetic gait became more and more impressed on us. Thus the paper may be considered from two points of view, first, a study of the mechanics of the foot and ankle in tabetic gaits and postures, and, second, an attempt to improve the faulty mechanism so that a tabetic will be given a fairly normal implement with which to learn to walk. It might be noted here that from the therapeutic point of view the limits of this paper must be obvious, for the reason that results in therapy depend for their proof on a large number of observations made by a large number of different individuals.

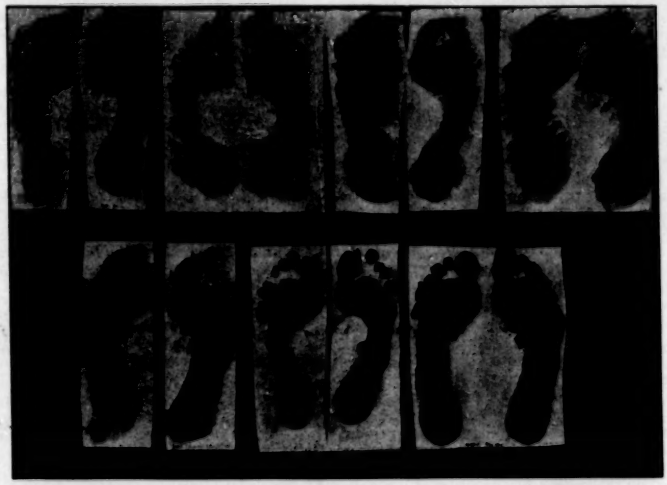

Fig. 2. Tracings of tabetic feet showing preservation of longitudinal arch and pronation as shown by the outer edge of foot raised from paper, X and XI especially.

MATERIAL.

The material on which this paper is based consists of fifteen cases of tabes dorsalis observed during a period of two years. The number was thought large enough, as no question of statistics was involved and no source of error due to small numbers of observation was an important element. Furthermore, this small series could be easily controlled and observed. In no sense was the material selected. As time and opportunity presented, these cases were examined, the results noted, and the final conclusions were determined from the facts observed in the whole material. The methods of study were very simple. The cases were studied clinically by the usual neurologic examinations. The diagnosis in none of the cases is open to the slightest doubt. The gait and posture were studied by both of us at many different times, and the conclusions so determined were carefully discussed in the light of the data obtained by measurements, photographs, tracings and foot prints. With the general principles so determined, the attempt at therapy was based and the improvement in gait noted.

LITERATURE.

Scant mention of the tabetic foot in the sense used in this paper is to be found in the literature of tabes or in the orthopedic literature which treats of the pronated foot.[1] A brief note on the hypotonic flattening of the foot in dementia paralytica is given by Féré.[2] There is one tracing of such a foot included in his paper, but no mention of the pronation and none of the arch. Féré thinks that the flattening is due to the hypotonia plus the increasing weight of the patient which he studied. There is no hint contained in the paper that he finds any connection between this and the ataxic gait. The foot shown, however, is very like the ones which we have studied in our work. Most of the literature on the so-called tabetic foot—*pied tabetique*—is concerned with

1. Some of the literature not referred to in detail below is as follows:
Lovett and Cotton: "Practical Points in the Anatomy of the Foot." Am. Ortho. Assn., vol. ii, p. 298.
Jakob: "Treatment of Tabes Dorsalis," Handbuch der Physikalischen Therapie.
Ueber Muskelschlaffheit bei der Tabes Dorsalis," Neurologisches Centralblatt, 1896, No. 8.
H. S. Frenkel: "Grundsaetze der Uebungs Therapie," Berl. Klin. Woch., No. 19, vol. xxiii, 1905.
R. W. Lovett: "Affections of the Arch of the Foot Commonly Classified as Flat Foot," Trans. Amer. Orthoped. Assn., vol. viii, p. 78.
Blodgett: "Statle Foot Errors," THE JOURNAL A. M. A., Aug. 24, 1904.
Ferd Schultze: "Die Behandlung des statischen Platt-Fusses," Zeit. fur. Orth. Chir., vol. xiii, p. 502.
2. Féré: "Note sur L'Apolatisement Hypotonique du Pied chez les Paralytiques Generaux," Nouvelle Iconographie de la Salpetrière, No. 1, 1904.

descriptions of the arthropathies in the feet of tabetics.

In Hoffa's[3] well-known monograph there is no mention made at all of the points brought out in this paper, although he has a material of twenty-six cases of tabes in which various orthopedic measures were tried.

There is frequent mention made of club foot in tabes called *pied bot tabetique* by the French writers, who seem to have done most of the work in this connection. Joffroy, in 1885, described this deformity for the first time. He seems to have realized that it differed from the ordinary club foot. He lays particular stress on the fact that the club foot of tabes is not due to the atrophy of the muscles as in the paralytic club foot, nor is it due to an osseus process, but to the flaccidity of the muscles. He calls it the atonic club foot. The hypotonia plays here also an important rôle.

Idelsohn,[4] in a paper on the pathology and histology of the tabetic foot, considering this term only as descriptive of the tabetic arthropathy, mentions the frequency of the combination of the tabetic foot with flat foot. This, by the way, seems to be a very commonly accepted opinion, the frequency of flat foot in tabes. It is to be regarded as an error in observation, because the tabetic foot is not a flat foot at all, but is a pronated foot. To the orthopedist this distinction is obvious enough. These brief and altogether unsatisfactory references are all that can be found in recent literature. It seems to show that the points brought out in this paper have not been given the proper degree of attention or that the very patent fact of foot deformity in tabes has been regarded as definitely settled when the term flat foot has been used to describe it.

As to our own observations on the gait and postures assumed by tabetics, we have noted a marked variation in degree and kind, depending apparently on the amount of ataxia, with the reservation that complicating factors, such as blindness, double vision, etc., are excluded. On standing, the tabetic unconsciously assumes a position which supplies to him a broad base of support. This broad base is secured by strongly everting the feet and standing with the knees well apart and at times one foot or the other advanced. The gait, which has been described as pseudo-spastic, is simply a progression of this standing position. The strongly everted foot is lifted and brought forward with an uncertain sort of slap and placed on the ground in a position of eversion. Oppenheim,[5] failing to note the importance of the eversion and pronation of the foot, thus describes the typical gait in tabes: "The patient lifts the free leg abnormally high by means of the overacted flexion and outward rotation of the hip joint. Then he throws it down forcibly, meanwhile overextending the ankle joint and foot, so that the foot is set down in a stamping manner, heel first. The knee of the resting leg is abnormally strongly overextended. He walks rapidly with unequal steps, looks always with his eyes fixed to the ground and would fall if he turns his eyes in another direction." The toe falls to the ground, because the heel strikes first. The gait may be described in a few words as pseudo-spastic, uncertain, irregular and everted.

As Whitman[6] has shown, there is a marked mechanical disadvantage produced in either standing or walking with the foot in an everted position, as the body weight falls inside the tarsal arch and the tendency is to roll the foot inward. i. e., pronation. Accompanying this pronation of the foot the weight-bearing line also falls to the inside of the knee joint. These two mechanical disadvantages we have observed to be very evident in our series of cases. The degree of pronation was so striking in many of these cases, as, for instance, in Case 1, that the feet presented the appearance of being absolutely flat.

Tracings were taken in order to demonstrate the presence or absence of the arch of the foot. Invariably it was found that the arch had not collapsed. In some of the tracings the outer edge of the foot is raised from the paper, showing the degree of pronation present. In none of the tracings is there any evidence of arch obliteration. The discrepancy which exists between the appearance of these feet in standing and walking and the evidence as shown by the tracings is perfectly apparent. The feet were found to be flexible to a marked degree. This flexibility in many of the cases extended to a condition of hypotonia.

As far as these fifteen cases go, we are inclined to the opinion that the tabetic foot is a pronated foot; that this pronation is a result of the tabetic changes in the cord and peripheral nerves which make it necessary on account of the loss of muscle sense and other sensory changes for the individual so affected to assume the everted pseudospastic gait; that the arch of the foot is not collapsed, but that it is much lowered, due to the hypotonic condition of the muscles; that this pronation as well as the hypotonia, varies from the extreme condition, which the photograph (Fig. 1) shows, to a condition where the pronation is not easily observed, and that this variation seems to depend on, or rather to accompany, the amount of ataxia.

In observing these cases it immediately occurred to us that a correction of this faulty walking machine would be of benefit to the patient. The things to be accomplished seemed to be to correct the pronation and to hold the foot when bearing weight in a supine position, to construct a shoe that would supply a broad standing base. These needs being fulfilled, it would be possible for the tabetic to learn to walk much more readily and comfortably than when handicapped by the mechanical disadvantages incident to eversion and pronation.

It might be mentioned in this place that the Fraenkel[7] method of exercise treatment was used in most of these cases in conjunction with the attempt to improve the mechanism of walking.

We at first placed under the feet of our patients the ordinary steel flat-foot plates designed to correct pronation. It soon became apparent, however, that it was necessary to supplement this form of support by broadening the walking base. Later we have given up the steel plate and are depending on a modification of the shoe designed by Mr. Thomas[8] for the treatment of ordinary valgus. Briefly, this shoe presents the following points: The heel is run forward on the inside to the distance of from half an inch to an inch. Between the inner and outer soles a wedge-shaped piece of leather is placed

3. Hoffa: "Die Orthopedie im Dienste der Nervenheilkunde," 1900.

4. Idelsohn: "Ein Beitrag zur Pathologie und Histologie des Tabischen Fusses," Deut. Zeit. fur Nervenheilkunde, vol. xxvii, Nos. 1-2, 1904.

5. Oppenheim: Lehrbuch der Nervenkrankheiten, Fourth Edition.

6. Whitman: "A Study of the Weak Foot," Trans. Am. Orthopedic Soc., vol. viii.

7. Fraenkel: "Die Behandlung der Tabischen Ataxie mit Hilfe der Uebung," 1900; also "Ursachen der tabischen Ataxie," Neurologisches Centralblatt, 1897, Nos. 15 and 16.

8. Thomas: Bulletins et Memoires de la Soc. med. des Hopitaux, 1885 (Quoted in Maladies de la Moelle Epiniere Dejerine).

which is designed to raise the foot at its inner edge an eighth to a quarter of an inch. Various flat-foot appliances, such as cork pads or steel plates, are placed in this shoe to support the hypotonic arch. Some of the patients presented a hypotonic condition of the ankle joint, which we have treated by having a leather stiffening in the inside of the upper.

As a direct result of the pronation there is undue strain thrown on the knee, transmitted to the hip and affecting the spine. Dane,[9] in an article entitled "The Effect on the Leg of Pronation of the Foot," comes to the following conclusions: "In addition to the generally recognized motion of the malleoli inward and slightly downward, the normal outward rotation of the tibia is replaced by an exaggerated rotation inward. These changes acting together produce an alteration in the obliquity of the axis of flexion of the ankle joint sufficient to destroy the mechanism by which the normal joint is enabled to support the body weight. As a consequence, flexion must be prevented and equilibrium be maintained wholly by muscular force. This increased rotation of the tibia interferes to a great extent with the operation of the mechanism by which complete extension of the knee should lock the joint and render it proof against the constant tendency of the body weight to flex it. The knee must, therefore, in subjects with pronated feet be kept in extension by constant exercise of muscular force."

From a clinical point of view, the cases offer nothing of interest. They represent an average lot of tabetic cases such as come to every neurologist. Excluded from this series are bed-ridden tabetics, and those who have arthropathies of the feet, and those who have any complications which in themselves might explain the condition of the feet.

From the tracings here shown the character of the feet is apparent. That they are pronated can not be denied, and that they are not flat feet is also definitely proved. An interesting point might be mentioned here, and that is that there is very evidently some relation (how close we are not yet ready to say) between the degree of pronation and the degree of ataxia. This is well shown by Fig. 2. This is the most normal foot in the series and this case had absolutely no demonstrable ataxia. We are inclined to believe that this observation, if it is proved to be a fact, will be of some diagnostic and prognostic importance.

THERAPEUTIC ATTEMPTS.

In the face of the obviously wrong mechanics of the tabetic's implement of walking, a correction was indicated, based on the degree and the kind of deformity found. This correction was only gradually arrived at, as we were on absolutely new territory. The shoe that we are using now is the result of a number of experiments, and we are by no means as yet certain that we have devised the perfect shoe for the ataxia gait of tabetics. The following represents the principles on which the shoe was devised and the reasons for each improvement:

The internal excursion of the ankle and the inward rolling of the foot we have tried to overcome by means of an artificial support, realizing that, in addition to the mechanical disadvantages in walking, the position tended toward abduction and flattening of the long arch of the foot. The plate known as the Whitman plate is in the ordinary case an effective devise for the correction of pronation, reminding the wearer at each step by its pressure on the scaphoid that the foot must be supinated. The nervous changes in tabes dorsalis leading to anesthesia remove this element and make it necessary to have a support that gives definite pressure to counteract the pronating tendency. After we had tried various steel supports, we came to the conclusion that the difficulty was not in holding up the arch, but in preventing the inward roll of the foot. This fact has been demonstrated by Hoke and Bradford.[10] We found it to apply especially to the tabetic foot, having the above nervous elements to combat.

The shoe designed by Thomas we have used of late with the best results. This shoe shifts the weight to the outer side of the foot and holds the foot in a supine position. Using the knowledge given us by Hoke and Bradford,[10] the support inside this shoe is placed so as to supply the lifting resistance beneath the internal cuneiform bone, that is well forward of the astralalus in order to check the pronation. A cork insole cut so as to meet these conditions we have found by experience to serve better than a steel plate, its points of advantage being its lightness and the lack of dangerous rigid pressure.

Realizing that the tabetic needs a broad, sure footing, we have used an ordinary broad, straight-last, laced shoe. To this we have added the lengthened heel and the raised inner edge as the main factors of correction. As to the amount of supination necessary we have had some difficulty; at first we put all of our cases into well-marked supination, throwing the weight well to the outer arch of the foot. In some of the cases it soon became apparent that this position was causing trouble, as there was too much strain on the ligaments. As a result of this development, we have been trying of late to judge the amount of pronation in a given case and to give to this case a support that corrects this pronation, but does not overcorrect it.

Another point that is of less importance, but that nevertheless has aided some of our patients to a material degree: we found that by putting a series of transverse cleats on the sole of the shoe the footing was made more secure; these cleats are similar to those that are seen on the shoe of a football player. They are one-eighth of an inch high and run across the sole zigzag or straight lines about an inch apart, three in number. These cleats have given an added sense of security, especially when the patient is walking on a plane surface; incidentally the increased height has prevented, in one case, the toe striking the ground in the forward movement in walking. In several cases the hypotonia has been present to such an extent that the ankle joint has needed support; this need has been filled by adding a leather stiffening to the inside of the upper of the shoe. Such a shoe as this we have found to be of undeniable advantage to this class of cases. It is important to have the sole and heel level so that the surface contact is perfectly applied, allowing no rocking.

In regard to the therapeutic results of this study, we are much inclined to be very conservative, as is consistent with a method as new as this one is. We have little doubt, however, that the patients to whom we have given the shoe have shown from that time on a marked improvement in their gait. They all have said that they feel very much more comfortable, have less hesitation in

9. Dane: "Some Effects on the Leg of Pronation of the Foot," Trans. Amer. Orthopedic Assn., 1897.

10. Hoke and Bradford: "An Anatomic Consideration of Pronation and Its Relation to Treatment," Trans. Amer. Assn., vol. viii, p. 178.

walking, have more confidence in themselves and are enabled to walk greater distances than before without fatigue. From our own observations we are convinced that the improvement in these patients is not imaginary, suggestive or due to faulty observation. The striking improvement in the posture of these patients is well worthy of note and is particularly of value because some of them had occupations that required upright positions for long periods of time. From a mechanical point of view the tendency to assume normal attitudes in both walking and standing was especially striking. Another factor of some importance was the disappearance of pain in some of these cases. If the pronated foot in otherwise normal individuals causes pain by the overexertion of certain muscles, this same condition must be harmful in tabetics. We feel that further study in this direction may throw some light on the production of the arthropathies in tabes, for the reason that faulty attitudes, by throwing weight and strain on structures not designed to withstand them, may more easily become the seat of the joint and bone changes typical of those found in tabes dorsalis.

CONCLUSIONS.

1. This series of observations has shown unquestionably that the foot of a tabetic with any degree of ataxia in the lower extremities is a pronated foot.

Fig. 3.—Standing position of a tabetic showing strongly everted feet.

2. The effect of this pronation leads to muscular strain on the ankle, knee, hip and spine. This, together with the hypotonia, tends to break down the long arch, thus producing a faulty mechanical instrument by which walking is accomplished.

3. The pronated foot plays an important and hitherto unrecognized rôle in the production of the ataxic gait in tabes.

4. Correction of this faulty mechanism tends to increase the ability of a tabetic to learn to walk normally.

5. In conjunction with the Fraenkel method of exercise treatment, the correction of the faulty mechanism of the foot indicated in this paper offers the most favorable treatment for the ataxic gait of tabes dorsalis.

DISCUSSION.

DR. H. T. PERSHING, Denver, Col., said that in the past efforts to relieve tabetic symptoms have been very restricted, and that anything which will enable the patient to walk better is likely to be of very great service. Dr. Pershing mentioned the shoemaker, told of by Dr. Patrick several years ago, who made a special kind of shoes for tabetic patients and sold them for $100 a pair. Dr. Pershing said that at first it seemed absurd that any one would be willing to pay such a price for a pair of shoes, but now he can easily see that a pair of shoes properly made to correct the mechanical defects in tabes would be worth a great deal more than that. He classes the orthopedist nearer the neurologist than any other specialist, and stated that he gets more help in his work from his colleague, Dr. Packard, an orthopedist, than from any other man. Dr. Pershing also mentioned the fact that Dr. S. Weir Mitchell's Hospital in Philadelphia is known as the Orthopedic Hospital and Infirmary for Nervous Diseases.

DR. JOHN PUNTON, Kansas City, Mo., said that all neurologists who treat tabetic patients know how limited are the means for giving them relief, and that any method of treatment which assists in any way to overcome the ataxic gait is most valuable. If the method advocated by Dr. Schwab can be borne out by practical experience, Dr. Punton considers that he has made a step in advance in the treatment of tabes, for which he deserves thanks.

Fig. 4.—Everted pronated feet in tabetic gait.

DR. SMITH ELY JELLIFFE, New York, declared that when an individual has an ailment that is bound to last for 13, 15, 20 or 25 years most physicians lose enthusiasm in his treatment. The physician is apt to tell such persons that there is very little to be done for them, and as a consequence they stray into the hands of irregular practitioners and help to make those individuals successful. Neurologists are to blame, Dr. Jelliffe said, for not taking enough pains with these patients. In referring to shoes for tabetic patients, he said that, while shoemakers in Chicago charge $100 for a pair of shoes for these patients, in New York one man charges from $3,000 to $4,000. A shoemaker there has profited for many years in the construction of special shoes for tabetic patients for which he charges a special price, and the chief reason that he is able to succeed is that very few neurologists and very few orthopedists

have taken as much pains as that shoemaker has. He is entitled to his profits, to a certain extent. Neurologists are not quite so careful nor so optimistic as they might be, and the cases drag on indefinitely because of the obvious past experiences in the treatment of tabes.

DR. DAVID I. WOLFSTEIN, Cincinnati, Ohio, said that he knows of a man who paid $750 for a pair of these shoes, and he had to take them back to the shoemaker to have them fitted. The man returned home very happy with the shoes, but in about two or three months he ceased wearing them and the shoemaker had the $750. Dr. Wolfstein does not know what became of the shoes. He asked Dr. Schwab whether or not progression in the hypertonicity would be overcome by correction applied to the tabetic foot, and if he has had an opportunity to examine the condition of the tabetic hand in cases of ataxia of the upper extremities, and whether or not that is explained by the same conditions as in the foot.

DR. J. W. PUTNAM, Buffalo, N. Y., said that it is the original name of the disease, progressive locomotor ataxia, which has so influenced physicians and made them unwilling to attempt the treatment of the disease. One must be careful to avoid too great confidence in any system of mechanical correction, for no mechanical correction can be of permanent value. When suspension was first used in the treatment of locomotor ataxia the explanation was made that it relieved the patients by stretching the spinal cord and changed the nutrition of the cord, and that the benefit to the patient was permanent; but as years went by and the number of observations continued the number of patients that were benefited decreased. Dr. Putnam believes that the greatest advance made in the treatment of locomotor ataxia was started by Frænkel in his movement treatment. He gave the patient at first the simple movements and when he was able to accomplish these he added more difficult movements, such as walking backward, and lengthened the steps. It is simply in the development of the muscles along that line that the education comes to the legs, just as the education comes to the hand of the skilled piano player. The more one gives exercises and the more these are varied the more the direction of the nerve paths is changed; the more self-reliant the patient is made the more he will improve. When he becomes more able to carry out the difficult movements the simple movements become easier. The same thing is true in regard to the mechanical correction. It is the importance of the relative position of the shoes, of the relative balance of the muscles. The two factors must work together. If the patient relies on a $5,000 pair of shoes, minus the Frænkel movements, there would not be much benefit. This correction of the tabetic foot is of very little value of itself, but in combination with the education of the brain and the development of the muscles many of these patients may obtain a great deal of benefit.

DR. SIDNEY I. SCHWAB stated that an investigation based on fifteen cases must be regarded as preliminary to further work along the same lines. There is a possibility that further study in the mechanics of the tabetic foot will give much valuable information. When he spoke about the two or three patients who never had any pain after the shoes were worn, he did not refer to the typical tabetic pain, but to muscular pains which were attributed to the wrong position of the foot. He emphasized one point in regard to combining this method with that of Frænkel and that has reference to the effect on the patient in a psychologic sense. The greatest relief that one can afford tabetic patients with ataxia of the lower extremities consists in the restoration of their gait to somewhere near normal conditions. Most patients do not care whether they have a knee jerk or not. They do not care whether they have an Argyll Robertson pupil or not, but they do care about their inability to work without exciting attention. The thing that separates a tabetic from the rest of the normal world, from his point of view, is his peculiar gait. If that can be corrected so that it approaches to the normal, then many thousands of happy moments are added to the tabetic's life. The patient's chief concern is centered on this point. If the gait in a tabetic can be corrected, all that can reasonably be expected from therapeutics is accomplished. The shoe as Drs. Schwab and Allison have planned it adds about three or four dollars to the cost of a good shoe. They have heard that a very expensive shoe for tabetics which is manufactured at an excessive price is on the market. The probability is that this shoe is made with a very broad base, thus insuring a certain amount of firmness to the patient. In respect to the effect of this treatment on the hypotonicity, Dr. Schwab does not feel that the material is sufficiently large to speak with any certainty. He has no means of observing the degree of hypotonicity or

Fig. 5.—Pronation and eversion of feet in standing.

Fig. 6.—Corrected attitude of tabetic wearing modified shoes.

rather of measuring its extent. Certainly no marked change has been produced. The probability is that if the joint is hypotonic it will always remain so. We simply tried to correct the mechanical function of the joint and not its anatomic condition. As far as the ataxia of the hands is concerned this is an entirely different proposition. The hand bears no constant weight, and this weight-bearing function of the foot creates the problem under consideration. The shoes have been worn by some of the patients about eight months. Drs. Schwab and Allison have found so much to learn and so much to correct that they can not say that the best sort of shoe has as yet been devised. The fact that the patients feel more secure the moment that they wear the shoes has been a constant observation. Some of the most important features of the shoes were suggested by the patients themselves.

THE WATER SUPPLY IN SHIPS FROM ITS BEGINNING TO THE PRESENT TIME.*

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The problem of the water supply for sea-going ships is one of the most important and, at the same time, one of the most difficult to solve of all the problems of naval hygiene. It certainly is not a simple question. Ships can not always choose the source of their water supply. It may be impure or even infected to begin with. But even granting that it was faultless when collected, it may not remain wholesome during a long cruise.

The early efforts of the old sanitarians to provide faultless drinking water for seamen are full of pathos. Before the last century men did not know in what wholesome drinking water consisted. Much less did they know how to preserve it pure and sweet. When in addition to the ignorance of the age we find all efforts toward progress met either with cold indifference or active opposition, we may easily see why so little advance was made and feel a deep sympathy with the old ship's surgeons, Blane, Lind, Trotter, Fonssagrieves and many others in their fight against such obstacles.

To-day, with the help of chemistry and biology, the naval hygienist has come nearer solving the problem of a perfect water supply. While there are yet a few details to be perfected, we feel that they will soon be remedied and we, therefore look to the future with confident hope of success.

SOURCES AND COLLECTION OF WATER.

Until recently little or nothing was known about what drinking water should or should not contain. Of the two classes of impurities, organic and inorganic, the inorganic was the first to be investigated. About 1850 chemistry was far enough advanced to come to our aid and give us a few analyses of water. Later in the century biology helped us to discover the source of the more dangerous form of organic contamination and gave us means and methods for preventing the same.

A century ago, however, nothing of all this was known. The old sanitarians were influenced in the choice of water not by knowledge but by personal whims, a condition which even to-day has not wholly passed away. Neither chemistry nor biology has given us analyses that can be considered as generally applicable to all places and conditions at the same time. Different localities on the earth's surface produce waters of different compositions, and neither a chemical nor a biologic examination of a given water may be of any great value without a local inspection of its source. When we, moreover, consider that it is the proper and judicious interpretation of all the data involved that can give us an adequate idea of the nature of a water, we ought rather to be surprised at what the old sanitarians did know than at what they did not know.

Dr. Gilbert Blane,[1] for instance, tells us that "spring water is to be preferred to running or stagnant water," saying "unless it is taken at the source or near it, it is apt to be impregnated with decayed animal and vegetable substances, such as grass, wood and dead insects. This is an inconvenience that is greatest in hot climates, where everything teems with life and where materials of putrefaction are both more abundant and more prone to corruption."

That the greatest danger was hidden in the organic impurities of water was already well known in the midde of the eighteenth century, at least to Blane, we have a right to infer, for he says of that kind of impurity that "it is the most pernicious impurity" and that "the mineral impregnations common in springs are seldom in any degree unwholesome and do not, like the other, make the water corrupt." These are certainly correct observations and would pass muster to-day. The great and urgent necessity in those early times of navigation to procure a good and wholesome drinking water for a ship, in most any part of the world, sometimes took those old sanitarians far afield to inspect any lake, brook, spring or well that offered such a supply and made them practically acquainted with the natural sources of water the world over.

That meteoric water was at least in part depended on for furnishing a supply of drinking water, is perhaps easily understood, and may, moreover, be gathered from the early writers. Thus, Captain Cook, during his memorable cruise between 1772 and 1775, during which it is said that he lost but one man from disease, attributes to rainwater the swelling of the glands of the throat, and Gautier says of glacier water that it is very unhealthy. But Saussure already has called attention to the fact that the people in the high Alps, as well as the Esquimos, known to consume water from melted ice and snow, were essentially healthy peoples; and Wilson[2] says of rainwater : "When carefully collected, kept for a week or two in an iron or brickwork cistern, until its organic matters are decomposed, there is probably no better drinking water to be obtained." The explanation of all this is, as we know now, that rainwater, especially when collected in mid-ocean, is essentially a distilled water. While free from positive contamination, it never contains mineral salts to make it palatable.

One danger not sufficiently recognized in the early days of navigation is becoming better appreciated in recent years. That is the danger from contamination of water during its transport from shore to ship. A water perfectly pure and wholesome at its source may, by the time it reaches the ship or the sailor's stomach, be totally the reverse. Water, no matter from what source, must be taken to the large ships by a water boat. Barrels, wooden or iron tanks, earthenware vessels or even open rowboats may intervene between the natural source of supply and the scuttle-butt, with all the

* Read in the Section on Hygiene and Sanitary Science of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

1. "Observations on Dis. of Seamen," 3rd Edition, London, 1799. p. 297.
2. "Naval Hygiene," by Joseph Wilson, M.D., U. S. Navy, Philadelphia, 1870.

chances of contamination which such transport suggests. It is useless to say that, in these days of distilled water, these methods are no longer in practice. Every naval surgeon knows that a cruising ship will often take water from shore and fill its tanks with it, whether it is merely feed water for the boilers or not. These same tanks are used again for drinking water and consequently can remain safe from infection only when none but pure water is allowed to be stored in them. Again, every cruising ship will now and then get into places in which the most primitive methods of watering a ship are the only resource.

The usual method of examining water after it had reached the side of a ship in a water boat was merely perfunctory and of no practical value whatever. A sample of it was indifferently collected in a tumbler or tin vessel by a messenger boy and sent to the apothecary for examination. The only test applied was the nitrate of silver test for chlorids and the water was pronounced good or bad in proportion to the turbidity being much or little. Better training of naval surgeons in methods of hygienic water analyses and a more liberal supply with the means to carry them out on board ship have wrought great changes and improvements within recent years. But unless the naval sanitarian watches every step which the water takes from its source of collection until it finally reaches the tanks of his ship, he can form no adequate idea and make no trustworthy report as regards the quality of the water collected. No chemical or bacteriologic examination will give him data sufficient to make a complete and sufficiently reliable report on the quality and fitness of the water in the ship.

STORAGE OF WATER.

The storage of water on board ship dates from the time when ships first took to the high seas and went out on long voyages away from land. For short voyages in small boats little water was needed and the time of storage was short. This small amount was kept in earthenware vessels, and even to-day this is the favorite and handy means of keeping small amounts.

For long voyages, however, where the crews are large, this method is inadequate and wooden barrels at first took the place of earthenware jars. Notwithstanding the fact that water thus stored became putrid after a while, this antiquated method of storing endured over 200 years. Putrefaction was expected to occur as a matter of course and was so universal on shipboard that sailors had the common superstition that water had to putrefy three times before it became drinkable. No one ever succeeded in preventing this putrefaction of water stored in wooden casks or barrels.

That the wood of the barrels out of which the casks were made had something to do with putrefaction of the water stored in them was well known to the old, observing sanitarians, who had various ways of treating these casks so as to preserve the water in good condition. Says Blane,[1] "The purest water is ant to spoil by producing a putrid glare on the inner surface of the cask which contains it. There is a great difference in this respect between a new cask, especially if made of moist wood, and that cask which has been hardened and seasoned by age and use. Several contrivances have been proposed for preparing casks that hold water, but none have been found by experience so effectual as letting them stand for some time full of sea water, and it is a great advantage of this method that it is so easily practicable." And then he continues to say: "We consider all water kept in wooden vessels as more or less liable to putrefaction, but there is a substance which is neither rare nor costly that effectually preserves it sweet. This is quicklime, with which every ship should be provided in order to put a pint of it into each butt when it is filled."

"It is probably owing to the small amount of quicklime found in Bristol water that it is so incorruptible. It has the advantage of not being injurious to health but, on the contrary, is rather friendly to the bowels, tending to prevent fluxes." Finally, he fortifies his recommendations by experience, saying: "In the year 1779 several ships of the line arrived in the West Indies from England, and they were all afflicted with the flux except the *Stirling Castle*, which was the only ship in which quicklime was put into the water."

Blane explains the action of quicklime by the destructive property which it has on animal life and on the "glare" that collects on the sides of the cask, as much as on a species of vegetation of the order called algæ by the naturalist. He also speaks of alum, cream of tartar, vinegar, vegetable and fruit juices and tamarinds as having been made use of. He relates, among others, that the fleet under Sir Charles Saunders found that the waters of the St. Lawrence produced fluxes and that this quality was removed by throwing in four pounds of burnt biscuits into each cask before it was used. But he adds, "there is nothing so effectual and subject to so few inconveniences as quicklime." Thomas Trotter,[2] after treating on diet, remarks: "We can not leave the dietetic part of our work without adding some remarks on water. We were employed the whole summer of 1792 in making experiments on the best method of preserving water pure and sweet in long voyages, and a summary of this is published in a later work called 'Medical and Chemical Essays,' printed by Jordan, Fleet street, for Mr. Maubray of Portsmouth, to whom I presented a copy at the time his printing office and materials were burned, in December, 1794. We found, after trying everything, that the best practicable method was gently charring the casks in putting them together, both staves and heads, which rendered the surface unfit to decompose the water. But so little was this practice deemed perfect by the victualling board that Mr. Reeks, the cooper at Weevil, showed us an order from the commissioners expressly forbidding it, as they said it blackened the fluid." Then he continues: "It, moreover, makes the casks last longer by hardening them against worms in hot countries and also less liable to shrink from the hoops.. The whole process," he says, "is dependent on chemical principles in the above work and no one has dared to say that they are wrong." "I now, in the name of the service, request some captains to take the business up and carry to sea a given number of casks filled with pure water, one-half charred according to our way and the other half in the common way. Some trusty person must superintend the duty that it may be fairly tried, for we know it must succeed."

PRESERVATION OF WATER.

Nowadays, none but a few fishermen perhaps use the wooden casks for water. Since we can not and will not wait for our water to become thrice corrupt, as the old saying was, some shorter means had to be found. It was becoming more and more recognized that the method of storage had to be improved in order to preserve water sweet. The otherwise good effects of charring having proved of merely temporary benefit, sulphurization was

2. Trotter, Thomas, M.D.: Medicina Nautica, London, 1804, vol. II, p. 167.

tried and found better. The manner after which sulphur was used is as follows: The sulphur was burned in the barrel and then the barrel was filled one-fourth of its capacity with water, then some more sulphur was burned and the barrel filled half full of water, and so on until the barrel was full. Then, for every ten liters of water twenty drops of sulphuric acid was added and the barrel covered up. Such water, though with an acid taste, was not disagreeable to drink.[4] Then the addition of oxid of manganese was attempted in the proportion of one gram to 150 liters, as had been recommended by Perrinet. Although this process gave the water an acrid, rather astringent taste, it was inoffensive, more expeditious and much easier carried out than sulphurization. In 1822 four barrels of water were treated in France, two by charring and two by addition of oxid of manganese. After 33 months the water in the former two was found to be in a putrefying condition and that in the latter two was found good to drink in spite of its taste. The facts could not be denied and every one had by this time come to recognize that all efforts to render wooden barrels a fit means for water storage had miserably failed in one way or another. Recommendations for substituting iron casks for wooden barrels were first made as early as 1739 by Sibon, a captain at the port of Toulon,[5] while General Bentham is said actually to have introduced iron casks into the British navy in 1798, after previously experimenting with them for years. This was done later also in the French navy, and the cruiser *Uranie*, fitted out to go on a scientific

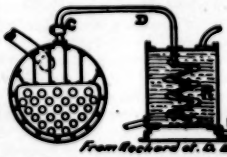

Fig. 1.—Distilling apparatus of Rochard and Bodet.

Fig. 2.—Distilling apparatus showing special condenser.

expedition, was the first ship of the French navy supplied with iron tanks alone.

This does not mean, however, that the practice became universal immediately. On the contrary, it spread very slowly, indeed, for we have in our own navy a fairly recent record of the use of wooden casks down to the latter part of the last century. Rear Admiral G. W. Baird,[6] U. S. N. (retired), writes me that the sailing sloop *Constellation*, of 1,186 tons displacement, carrying a crew of 228 men, had 48 iron tanks and 124 wooden casks, containing 32,364 gallons, 120 tons of water. The amount of space which these water casks occupied is shown in the further statement of Baird, when he says: "The 48 iron tanks alone weighed 31 tons, there being no record of the weight of the casks. In this ship it will be seen that a little over one-eighth of her total displacement was taken up in the water supply." The delay in the introduction of iron tanks must be attributed to two principal causes: (1) In prebacterial days no satisfactory explanation could be given for the occurrence of putrefaction in wooden barrels, and therefore no good reasons seemed to exist why the same water should not putrefy in iron casks as well as in wooden vessels. It was not recognized and, consequently incredible that the source of putrefaction consisted in bacterial action on sulphates contained in the water. Now that we know of sulphur bacteria engaged, on the one hand, in reducing sulphates to sulphuretted hydrogen, and in oxidizing the latter to sulphates, on the other, we can better understand at least one of the causes of this trouble and how the porous wooden walls became the culture plates for that class of organisms. (2) The other reason is that iron casks, although a great improvement over wooden barrels, also had their serious objections themselves. One of these was that they were expensive and the other was that the iron was quickly oxidized and the resulting rust deposited in large quantities. The iron rust that forms as a result of the direct contact of pure water with the unprotected iron plates is at first deposited; when the ship gets under way it becomes suspended in the water. When we add to this the heat of a tropical climate and of a hot ship, a drink of such water, it may easily be imagined, is not very refreshing, to say the least of it.

According to Rochard et Bodet,[4] from 8 to 10 kg. a year were collected from a single tank.

Since it was, moreover, not indifferent for the health of the consumers whether a water did contain iron rust or not, means had to be taken to prevent the water from coming in direct contact with the iron, thus keeping the tank from being eaten up and the rust from getting into the water. After experimenting with various kinds of gums and gum resins, with lead and zinc linings and coating the walls with lime in more modern times, the most commonly employed material to-day and the least objectionable for lining these tanks is Portland cement.

In lining the tanks with cement, various additions to the latter have been recommended. Thus, Sestini recommended that chalk be added to it; but this resulted in a very hard water. The best and simplest process is that recommended by Lefèvre and is as follows: The sides of the tank are thoroughly scraped with a metallic brush to free them from rust. This is followed by flaming the sides with a soldering lamp. After flaming, the best Portland cement, made into a convenient consistency, and prepared with boiled water, is applied with a soft brush and allowed to set perfectly; several coats may be applied if necessary. After the cement has hardened, the tank is ready for use. Such a lining, it is claimed, will last for two years. Chalk, to say the least, is unnecessary. We may conclude, therefore, that the problem of preserving water on board ship is provisionally solved and that iron tanks with a cement lining will be used in the future on all ships of the navy as in those of the merchant marine where the vast importance of a good, wholesome water is recognized and appreciated.

WATER CORRECTIVES.

Imagine seamen in the early days of circumnavigation, far away from land and pure water with nothing but bad water to quench an ever-recurring thirst. We can-

4. Rochard and Bodet: "Traité d'Hygiene Navale," etc., Paris, 1866, p. 405.
5. Lefevre: These de Paris, 1869.
6. Letter: See also Journal Franklin Institute for 1872.

not wonder that they should try by every means conceivable and inconceivable to improve their drinking water. We, therefore, find a host of remedies for bad water some of which even anticipated the methods in use to-day. Says Blane, writing in the latter part of the 18th century: "When the water of wells or brooks is found loaded with mud, the following expeditious method of filtration, described by Dr. Lind, has been practiced with success: 'Let a quantity of clear sand or gravel be put into a barrel placed on one end without the head so as to fill one-half or more of it and let another barrel, with both ends knocked out, of a much smaller size, be placed erect in the middle of it and almost filled with sand or gravel. If the impure water be poured into the small barrel or cylinder, it will rise up through the sand of the larger one in the interval between it and the small one.'" In this description, we can see, without a great stretch of the imagination, the germs of the construction of a modern well or of the present method of sand filtration, if not of the Pasteur-Chamberland candle. Again, with regard to aëration, Blane says: "Such is the attraction of the air for this offensive matter that the water need only be brought thoroughly in contact with it to be rendered quite sweet." Then he describes an apparatus invented by a Lieutenant Osbridge. With this apparatus the water in the cask was raised a few feet and allowed to fall through several sheets of tin plates perforated like "colanders" and placed horizontally. Blane speaks of

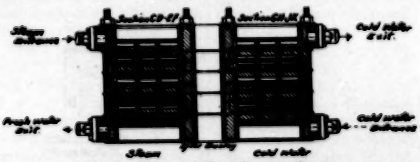

Fig. 3.—Pape and Henneberg condenser.

it as "a machine very deservedly in common use and the working of it is a modern and salutary exercise to men in fair weather." Thus we may take it for granted that, besides filtration, these old sea sanitarians knew well the effects of aëration as far back as 1750.

At that time the water they had to deal with was presumably full of decaying organic matter. These old wooden casks were indeed nothing more nor less than what we now conceive to be septic tanks and in the conditions under which these tanks were kept, down in the bottom of the ship, dark, damp and mouldy places, poorly, if at all, ventilated, the anaërobes must have led an ideal existence. Consequently, aëration produced an improvement almost startling.

DISTILLATION OF WATER.

Among all the numerous water correctives, distillation requires a special treatment, on account of the large and important part which it always played in connection with the water supply on shipboard. It is now well recognized that at least one of the reasons why distilling of sea water did not become more quickly popular than it did, was the firm belief entertained at that time—and still entertained by some of the present day—although for better reasons than of old, that something had to be added to it before distilling was begun, so as to "remove the spirit of salt." It was perfectly well known to Dr. Lind and to his sympathizing contemporaries, however, that the distilling could be done without adding anything to the sea water to begin with. Says Lind:[7] "In 1761, I had publicly demonstrated by various experiments at the Royal Academy at Portsmouth, that a simple distillation rendered sea water perfectly fresh, pure and wholesome. These experiments were made in the presence of Mr. Hughes, resident commissioner of the navy at that port, and of Mr. Robertson, late master of that academy. In the month of May, 1762, an account of this discovery was read at a numerous meeting of the Royal Society in London; in March, 1763, the second edition of my essay on preserving seamen, containing this discovery, was published in London, by the authority of the Lords Commissioners of the Admiralty; which honor their lordships were pleased to confer on account of this important discovery."

Hauton, in 1670, is said to have recommended caustic alkali for the purpose of destroying the bituminous matter. Appleby, in 1734, published his procedure by order of the English admiralty, in which he extolled the virtues of caustics and calcined bones. Butler employed soapsuds. Walcot added antimonial preparations, while

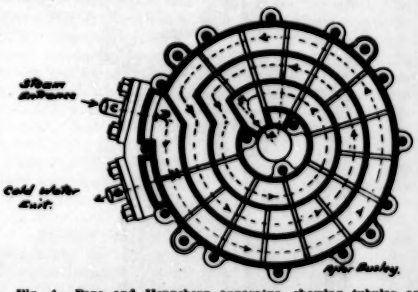

Fig. 4.—Pape and Henneberg apparatus, showing tubular arrangement of condensor.

still others wanted to let the water putrefy before beginning its distillation. Lastly, Perrinet, in more recent times proposed the addition of manganese and charcoal in the proportion of 1:5000.

While, then, the credit of having been the first to suggest and to carry out distillation of pure water from sea water is claimed by several individuals, it may be said that distilling did not come into general use before 1761, when Dr. Lind was fortunate enough to discover that sea water simply distilled, without the addition of any ingredient, afforded a water as pure and wholesome as that obtained from the best springs.

Even the discovery of the learned Dr. Stephen Hales[8] did not find general favor at that time, although received with considerable enthusiasm by some; so that, distilling may be said to have begun in earnest from the time when Dr. Lind's discovery became generally known. The earliest attempts at distillation were clearly not successful. According to Lefèvre[8] it was Gauthier of Nantes who constructed a distilling apparatus as early as 1717 and Dove and Hoffmann constructed one in 1765. Both these were rejected on account of being too cumbersome. The rudest kind of contrivances were at first

7. An essay on diseases incident to Europeans in hot climates. Philadelphia, 1811, p. 242.

8. Stephen Hales, D.D., F.R.S.: "An Account of a Useful Discovery to Distill Double the Usual quantity of Seawater by Blowing Showers of Air up Through the Distilling Liquor." London, 1756.

devised. The stills in Blane's time, employed on English ships, are described as consisting merely of a "head and worm" adapted to the common boiler, and in which distilling was done, while the food was being cooked. More than eight gallons of excellent fresh water were said to have come off in one hour from the copper of the smallest ship of war.

An extemporized distiller by Dr. Lind is described as consisting of a tea kettle with the handle taken off, and inverted on the boiler, with a gun barrel adapted to the spout, passing through a barrel of water by way of "refrigeratory" or kept constantly moist with a mop. In 1763, Dr. Poissonier devised a distiller that could be adapted to the ship's kitchen and about the same time Irving in England devised a similar apparatus, both of which were received with great enthusiasm at the time.

The progress which the introduction of distillers made in the early part of the 19th century was destined to receive one more brief check. In 1817, Sage, in an impressive memoir, strongly protested against the general introduction of the distillers of Poissonier and Desormes into ships, claiming that distilled water was dangerous and demanding that new experiments be made before installing these distillers. To judge by what followed the publication of this memoir, it must have made a deep and widespread impression; it also indicates the general importance attached to the whole subject at the time. A series of experiments were at once begun on convicts. Water from the ports of Brest, Toulon and Rochefort was distilled and 41 convicts made to drink none but distilled water for a whole month. Behold! their health was found not to suffer in the least as a consequence of the water they drank. A captain and several other commissioned officers drank of the same water without injury to their health. After these experiments, the question raised by Mr. Sage of the existence of a poisonous "alkalino-oleagino-neptunien gas," according to Lefèvre, was finally decided against him. The end of this controversy was likewise the beginning of improved distillers for use in ships.

The distilling kettles consisted of quadrangular cases made of sheet iron, their interior being divided into three compartments by two horizontal partitions. The lower compartment was the hearth or furnace, the middle compartment contained the sea water to be boiled and distilled and the upper compartment was the place where the food was cooked by the steam generated below. Such a distilling kettle was surrounded on the sides by refrigerators through which ran a spiral pipe in which the steam was condensed.

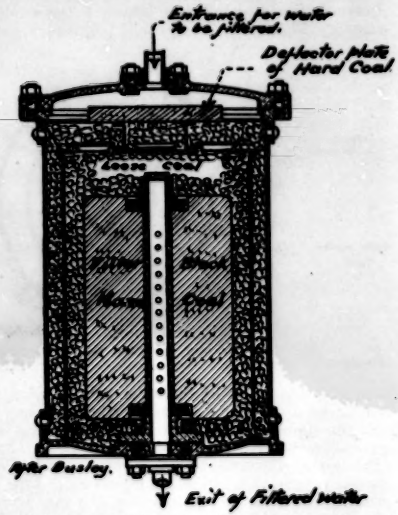

Fig. 3.—A filter of the best pattern showing how the water enters and is at once deflected by a carbon plate over loose pieces of carbon.

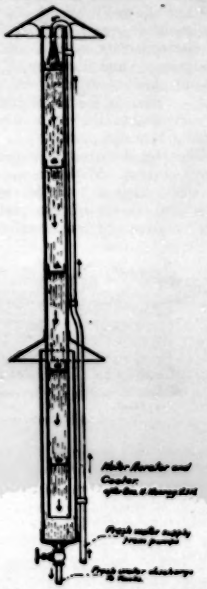

Fig. 6.—Showing aërator constructed by Capt. G. H. Kearney, U. S. N.

It is easily seen that the quantity of water furnished by these distilling kitchens was small and barely gave the amount of water necessary for drinking purposes. The demand for larger quantities was soon supplied by larger as well as better distillers. How slow their general introduction was, into the U. S. Navy in particular, is best shown in the letter from Admiral Baird, already referred to, as well as in the account of an improved distilling apparatus given by him in the *Journal of the Franklin Institute* for 1870 and 1872. The first serious attempt in the construction of distillers for use in the U. S. Navy was begun by him in 1866 on the *Pensacola*, and in 1877-8, I made a cruise on a sloop of war under sail from San Francisco around Cape Horn to Washington, a journey of 113 days, without a distiller of any kind on board.

For a long time, it was steam from the main boilers

that was condensed to furnish potable water. The arrangement was of the simplest kind. One of these boilers was tapped and the steam escaping through a spiral copper pipe was cooled to condensation as may be seen illustrated in principle in Fig. 1. Such water, as might be expected, was almost invariably laden with all the impurities, not only of the sea water, but also with those from the inside of the boiler itself, especially fatty acids, which imparted to the water its well known empyreumatic odor.

Special distillers of greatly improved pattern were made during the latter part of the last century. The most notable among these were the Cousin, the Weis and the Mouraille in France, the Normandy, in England, the Standard Evaporator in the United States and the Pape and Henneberg in Germany. The general principles in the construction of them all is as follows: The sea water is conducted into a special reservoir where it is heated by steam pipes connected with one of the boilers from the main engines. The steam in this arrangement does not mix with the salt water to be evaporated, providing everything is tight, but, after heating the sea water which surrounds these pipes, returns to the main boiler whence it came. The evaporated sea water is condensed in a special apparatus called the condensor (Fig. 2).

Since all the most essential changes and improvements in the present distillers have occurred in that part of it known as the condensor, I may here limit myself to describing what is at present believed to be the best and most economical one in use, namely, the one designed by Pape and Henneberg of Hamburg, Germany.

The Pape and Henneberg condensor (Figs. 3 and 4) consists in a number of flat elements, each one of which is divided into two by a central partition on each side of which the spaces are arranged spirally. The cold water entered from below runs from the circumference to the center of the lower spiral chamber of the lowest element. Thence it rises through an opening in the separating plate up into the lower spiral chamber of the second element, through which it passes from the center to the periphery. From here it proceeds to the lower chamber of the third element and so on until at last it makes its exit from the lower chamber of the upper element. The steam to be condensed, entering above, takes the opposite course, running through the upper spiral chambers of each element in succession, giving off its heat to the cold water, through the thin copper plates (dividing the two chambers), until it issues as water below. The process of the steam's parting with its heat is further favored by the chamber's floors being traversed by ribs, which arrangement causes the steam, as well as the water, to be constantly stirred. It is stated by Busley[9] that the caloric effect of these condensors is almost from eight to nine times as great as that of the ordinary tubular surface condensors. Thus in a condensor of four plates and a cooling surface of 0.56 square meter, the hourly product per square meter surface, is the conversion of 270 Kg. of steam of 116.290 C. into water of 13.60 C. in which is only 2.9 C. warmer than the water used for cooling purposes. (Figs. 3, 4 and 5.)

AERATION AND FILTRATION.

In some of the smaller gunboats and other naval vessels that are unprovided with the refrigeration plant and have but a small tank capacity, it often happens that the distilled water does not remain in the tanks long enough to get cool and the drinking water must be consumed while yet warm. This is especially often the case in tropical climates, just where a cool and refreshing drink of water is most gratefully appreciated. Under such conditions aërators are very desirable.

Figure 6 is intended to show an aërator constructed by Chief Engineer (now Captain) George H. Kearny, U. S. N., according to my ideas, and later, much improved by him installed on board the U. S. S. *Marblehead*. A small pump takes the water from the distiller to the top of the tower where the water drops in succession through a series of perforated copper discs, and, in this manner, becomes cool and aërated. At the bottom, the tower opened into a larger receptacle which served as a reservoir and from which the water was sent either into the tanks or into the scuttle-butt. This aërator did excellent work both as regards aëration and cooling. On board the *Yantic* the men spoke affectionately of their water tower, but my sudden detachment from the ship did not give me time to make the observations I had planned to. The illustration here shown lacks the double cylinder which was intended for the aërator to be installed on board the U. S. *Yantic*. There was to be an air chamber between the inner cylinder through which the water descended and the outer cylinder, to protect the water from the heat of the sun. The openings through which air was admitted to the tower were protected, moreover, by several layers of flannel to remove the dust from the entering air; this also is not shown in the figures.

How carelessly, in former times, some of these aërators were made and used is shown by an incident in my experience in 1890. Shortly after reporting for duty as medical officer of the U. S. S. *Yantic*, in 1890, the unusually large sick list and the nature of the complaints led me to examine the drinking water. This was found to contain organic matter and chlorids in large amounts. The commanding officer insisted that the water was distilled and could not be the cause of the illness. The trouble, however, was promptly traced to the aërator.

The aërator in use at that time consisted of a wooden box about 6 ft. long, 1½ ft. high on one side and ½ ft. wide. The box stood on deck with one of its sides against the engine room hatch; the distilled water entered at one end and passed out at the other, presumably cooled and aërated. When the men were washing the decks, which was done with salt water drawn up in buckets from over the side of the ship, dashing the salt water along the deck, large amounts of it were thrown into the aërator. When it was realized that the *Yantic* was at that time alongside the wharf in the navy yard of New York near the Simpson Dry Dock within 20 ft. of a large privy and urinal, not to speak of the sewers of Brooklyn, no more proof was needed. Suffice it to say that one demonstration of this kind convinced the commanding officer that this aërator was the efficient cause of both the bad water and the sick list and the antiquated piece of apparatus was abolished and the one, described above, put in.

Air injectors and carbon filters were at one time thought to be necessary parts of distillers. The air injectors were usually interposed between the evaporator and the condensor into which latter the air was introduced while the filter was placed between the condensor and the water tank. These injectors seem never to have made good their claims. With the latest distill-

9. Busley, C.: Die gesundheitlichen Einrichtungen der modernen Dampfschiffe, Berlin, 1897.

ing apparatus an oily taste in the water can be avoided and the filters of any kind do not seem to remove that taste when present; with our increased experience and knowledge of the means of distilling sea water in ships, even the carbon filter will probably soon be discarded altogether and pass out of use.

Figure 5 shows one of these filters of the very best pattern. Here the water enters above and, being at once deflected by the carbon plate over the loose pieces of carbon, is distributed through the outer chamber; from here it passes into the inner one and after traversing the inner chamber and the solid carbon block, it runs directly into the tank through the ordinary pipe connections, awaiting its further distribution to convenient places by small steam pumps. The Chamberland filter, after but a trip trial on board ship was given up as impracticable.

According to Plumert[10] the one filter possessing the greatest advantages and the least disadvantages for ship's use, is the micro-membrane filter of Kregor of Vienna. Such a filter is said to furnish 500 liters an hour. But the problem at present before us is to provide such a water by distillation on board ships that does not need to be filtered and, such a water can now be furnished with our present distillers when these are properly managed.

Thus, our experience with peripheral filtration on board ships has resulted similarly to that on shore. The observations of Hesse and Plagge, those of Woodhead and Wood and of Freudenreich and Schöfer have shown that peripheral filtration is, to say the least, not absolutely trustworthy. According to Frankland, Woodhead and others, it was shown that charcoal especially adds to, rather than detracts from, the number of germs after it has been used for some time. This is exactly the general experience with such filters on shipboard; and when the injectors had poured volumes of dust into them, such filters proved to be veritable culture media for germs. All these objections become, of course, accentuated in the tropics.

In a recent article by Le Méhauté,[11] that author wants the air injector to be abolished because of being both useless and dangerous; useless, because the water may be trusted to aërate itself; and dangerous, because the injected air introduces myriads of germs, the nature of which cannot be controlled, although granting that for the most part they consist of non-pathogenic saprophytes. Le Méhauté, moreover, deems the carbon filter superfluous. At one time, says he, it answered a purpose, namely, that of removing particles of lead and greasy matter. Now, since these dangers no longer exist, the filter has become unnecessary.

(To be continued.)

10. Dr. Arthur Plumert: Gesundheitspflege auf Kriegschiffen. 1900.
11. L'eau potable a bord. Arch. de Med. Navale, 1904, Nos. 9 and 10.

Arthritis Deformans.—A characteristic deformity of the foot, says Billings, is a permanent hyperextension of the proximal phalanges, with flexion of the distal bones of the toes. The distal ends of the metatarsals become prominent and tender and make the foot tender, and walking painful and awkward. In most cases, says McCrae, the glands near the affected joints are enlarged. Heberden's nodes, at the terminal phalangeal joints of the fingers, may occur alone or with involvement of the larger joints. The joint (or joints) once attacked seldom clears up suddenly, and the disease, unlike acute articular rheumatism, rarely shifts from joint to joint. The pulse is nearly always above normal. There is rapid muscular atrophy and exaggeration of reflexes. Chronicity is very suspicious of this disease. A highly nutritious diet, arsenic and syrup of iodid of iron are chiefly indicated.—*Denver Medical Times.*

PRESENT DAY METHODS OF CONDUCTING LABOR CASES AND THE RESULTS OBTAINED.*

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LANSDOWNE, PA.

I selected this subject for presentation before this section because of the great interest obstetric work holds for me among the several branches of medicine with which I am familiar, and because of the gratifying results I have obtained in this line of work.

I have not attempted a critical review of either ancient or modern obstetric methods, but have made the body of this paper a report of my technic of delivery, an analysis of a series of cases which have occurred in my private practice and some few other cases seen in consultation.

Among the splendid activities by which tireless science keeps mankind ever moving forward, it is not often that the obstetrician claims public attention by sensational discoveries or achievements; yet in the broad domain of human progress there has been no more distinct or radical advancement than in that field which calls for the highest resources of both the great branches of medicine.

It is interesting to note in passing that while at one time some disposition was shown to include or to absorb this study under the term of gynecology, there are institutions and professors, among the most learned and eminent, that insist on calling it by the old name of midwifery, although this term bears little more relation to what the science has become than the spiral white and red ribbon of the barber's pole does to the surgery, or rather to the phlebotomy, that the "tonsorial artist" now practices without an anesthetic.

It is within the lifetime of those who would not like to be classed among the aged that the observant Semmelweiss decided that all students assisting in the lying-in wards of his Vienna maternity hospital must wash their hands in a "disinfecting" solution of chlorid of lime, and thus within a year obtained a conclusive demonstration of the truth of his theory in the notable lessening of mortality (which had been as much as 30 per cent. or more in some months) among the puerperal patients of the institution.

The question often asked in regard to corelative subjects recurs when we perceive how apparently meager were the resources of our progenitors in the matters of midwifery. How did they get along without the skill and knowledge which the modern practitioner now has the opportunity to acquire? Putting aside the more or less untrustworthy and fantastic excerpts gathered from the Chinese medical writings ascribed to a period of five thousand years ago, we have the Ebers papyrus as the probably oldest authentic medical writing extant. In that document, written fifteen and a half centuries before Christ, there is next to nothing given for enlightenment or help in labor cases, and more than one thousand years later we find the Father of Medicine correspondingly silent in the Hippocratic writings, except in one instance.

There is historic warrant, however, for the presumption that, somehow or other, the increase and multiplication of the human race went forward along the ages

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association at the Fifty-sixth Annual Session, July, 1905.

in accordance with the Divine command, notwithstanding the absence of professional advice, direction and assistance. Incredible as it seems in our day, it was late in the sixteenth century, when royalty set the fashion of having court surgeons attend parturient ladies, that midwifery began to make strides in scientific advancement. Before that time, as Simpson observes, "Physicians and surgeons had been summoned to the lying-in room only by midwives who found themselves at the end of their resources, to give help in difficult cases, when the child was usually dead and the mother moribund."

I regret that this paper may be open to suspicion of indelicacy as to its implication of egotism, but I feel that to this I only need to enter a simple disclaimer. Though still classable as a junior practitioner, I have had within a period covering some seven years in private practice 207 confinement cases, not only without a fatal issue to either mother or child, but without, as yet, a single development of any of the forms of grave puerperal troubles which eventually beset every obstetrician, such as sepsis, hemorrhage, eclampsia, severe laceration, etc.

I am glad to believe that there are many of my colleagues who could make the same satisfactory report, but I know on the other hand results have been different with many others. This latter fact is at once my apology and warrant for this paper.

In THE JOURNAL of the American Medical Association, April 15, 1905, occurs the following abstract from a paper by Dr. Lea,[1] and in order to economize time I will let the abstract of Dr. Lea's report stand as typical for this paper.

The method of treatment adopted by Lea is based on 120 cases. He says a rise of temperature to 101 F., not accounted for by other causes, renders a careful examination of the generative tract necessary. If no sufficient cause is found in the vagina or perineum, and if the uterus is bulky and tender, a specimen of the lochia is removed and a uterine douche given, with due precautions. In 48 consecutive cases this was sufficient in 30 per cent. to bring down the temperature rapidly to normal. For some years Lea has supplemented this by careful swabbing of the interior of the uterus with absorbent wool soaked in a solution of biniodid of mercury in alcohol, 1 in 2,000. If this procedure is inefficient, or if the infection is severe, from the first, the uterus is explored with the fingers, preferably under chloroform anesthesia. If the cavity is perfectly smooth, showing an absence of retained products or of decidua—a condition which is rare—the uterus should be thoroughly swabbed out with the biniodid or some strong antiseptic solution, and packed with iodoform gauze soaked in an antiseptic. If a piece of placenta is found this should be removed, followed by swabbing and gauze packing. If the cavity is large and the surface irregular, due to hypertrophied and necrotic decidua, the patient's safety can only be insured by its complete removal. This is most efficiently done by the use of a suitable curette. Vaginal section may be done as supplementary to curettage if symptoms of pelvic peritonitis are present. If the uterus contains placenta or débris, accompanied by grave infection, hysterectomy is much more dangerous than curettage, and packing should never be done. The best results from hysterectomy have been obtained in cases of periuterine suppuration, gangrene of the uterus, or necrotic myomata.

Here are statistics, advice and methods of procedure that to me are appalling. While my obstetric experience besides Dr. Lea's is, of course, lilliputian, I am sure that had I made digital examinations and had given uterine douches to my puerperal patients whose temperatures had gone to 101 F. and over, I certainly would have had infected cases about which to compile statistics.

I have followed this rule in labor cases: Let nature do as much as possible in these cases and only do that for the patient that nature seems unable to do. Briefly, my conduct of a labor case has been to insist as far as possible that everything should be scrupulously clean about the lying-in room as regards dressings, instruments, utensils, bed linens, etc., to make no vaginal examinations unless the external parts have first been cleansed with soap and water, to swab out the vagina with a gauze sponge, and thoroughly to coat the finger nails and hand with soap, after washing them and rinsing them in ether; to deliver all patients in the dorsal position, to support the head and perineum by a modification of Merkerttschiantz's method, which reduces lacerations to a minimum, and, what I deem most important, to have the fundus of the uterus grasped before the presenting part is born, and firmly held until the child is delivered and the cord tied. This procedure, I am convinced, has prevented in my practice a single postpartum hemorrhage of either great or small degree, and has facilitated the delivery of the placenta in the great majority of cases in from one to three minutes after the cord has been tied. In addition to the above routine, no douches, vaginal or uterine, were given to any cases, either before or after labor.

Where a vaginal or perineal tear occurred, and was sewed, the apposed edges of the wound were carefully swabbed once to twice daily for the first few days with a cotton or gauze sponge to remove the exudate. I have deemed the vaginal and uterine douche of as questionable value in labor cases, as I found it to be in abdominal surgery, and have therefore to date tabooed it absolutely, and I believe that I have obtained results which sustain my radical views in this respect, for I have believed that more infective matter may be put into the vagina and uterus by the douche than the flushing will bring away.

The several patients known or supposed to have had a recent gonorrhea I treated locally for some weeks before labor began by dilating the vaginal folds frequently and swabbing thoroughly and in a painstaking manner with a strong solution of one of the albuminates of silver. Although some rather severe lacerations have occurred, none has ever extended to or near the anus, and in no tear have more than two stitches been applied.

I am aware of three cases in which small pieces of placental mass were retained in the uterus, but for which nothing was done save to watch the condition of the patients. Two of the patients passed the placental fragments the day following delivery, but the third woman did not discharge the retained placental portion until the fifteenth day after her confinement, when she passed a mass of tissue as large as an egg, with an extremely foul odor. From the fourth day of her confinement the lochia had an offensive smell, and as the placental mass was known to be in the uterus the cause of the odor was known. As the woman's temperature never went above 100.3, nor her pulse above 94, I did not interfere in the case, for I believed that fermentation of the placental mass caused the odor, but the lack of abnormal temperature or pulse pointed to the absence of any extremely virulent bacilli; however, had I with a curette broken into the natural barrier of the uterine walls, I would not have been surprised if the woman had developed a severe or fatal sepsis.

Of forceps delivery I can say but little, having used

1. "Some Remarks on Puerperal Infection": A. W. W. Lea, British Medical Journal, March 18, 1905.

these instruments but twice since leaving a maternity hospital service shortly after graduation, once in an R. O. P. and once on a primipara aged 39 years, with inertia.

Often it has been most embarrassing and annoying to find hour after hour slipping away and only slow progress being made, when the application of the forceps might have freed me from a long, tiresome wait, but the mother's condition, fortunately, has always warranted a delay, and I have thus refrained from using this mechanical aid which has done so much good for the puerperal woman, but which, if used, when not absolutely called for, has entailed serious injury to mother and baby and sometimes has caused the death of both.

I am sure that if a longer time were given the patient in labor in which to allow normal progress to be made and simple manual aid given the mother during the pains, statistics of puerperal lacerations, sepsis and death would show a marked decline.

Complications in my series of cases were surprisingly few. In one case seen first at term, I extracted a five-inch section of an olivary tipped bougie, forced into the body of the womb four months before in an unsuccessful attempt to bring on a miscarriage. The woman made an uneventful recovery.

One woman was delivered during the second week of a severe attack of typhoid fever, labor being hastened by the approaching crisis of the disease. The child was as healthy as most babies are at birth and the mother stood the shock well; when the child was five weeks old the mother insisted that she was strong enough to give the baby breast nourishment, artificial feeding having been employed in the meantime. The change was successful and the mother and child thrived. I was unable to get a positive Widal reaction from the mother's milk on the baby's blood, although the mother's blood gave the positive Widal.

Another patient was confined on the fifth day of a lobar pneumonia with a temperature of 104, and pulse 140. Her fever fell to subnormal on the second day after labor, and although very ill for several weeks she recovered. The baby was fed from the bottle and did well.

The anomalies of the cord and placenta were the common ones described in obstetric text-books, and lack of time prevents their description.

In about three of the above series of cases the patients had fibroid uteri of a moderate degree and in one case I delivered a syphilitic woman of a full term macerated baby, dead probably a month, and a live baby of probably six months' development, which lived for three weeks. There were separate placentæ. The woman had been taking specific treatment for about six months previous to her delivery.

A deplorable case I saw in consultation. A woman had been in active labor for three days with an immense cancer of the cervix. Her physician insisted that her condition was due to a "rigid cystic os" and refused to allow any interference with the case, operative or otherwise. The woman died of exhaustion on the fifth day after repeated attempts of her physician to apply forceps through the cancerous mass.

The fact to which I would call particular attention is one which is, perhaps, oftenest a source of extreme danger, and is too seldom recognized and guarded against. It is this: Just as special circumstances may convert stomach, bladder or colon into a veritable septic center, the position assumed in bed by the greater number of puerperal patients almost inevitably improvises, as it were, just such a septic cavity quite susceptible of infection, for the more yielding the couch the greater will be the pocket formed, as the patient unwittingly burrows into the bed at the spot where least resistance conjoins with that of her greatest weight. In this depression septic fluids in the bed or stagnant in the vagina are an ever present source of danger to the open uterus with the cervix resting on the vaginal floor, making the entrance into the womb only too easy for infectious fluids. To obviate this I keep the patient's hips well raised from the bed during the whole course of labor, and the vagina is thus kept free from any return flow of liquids contaminated by contact with the pad or bed.

With the field of obstetrics expanded into or supplemented by the gynecology of the day, the ideal combination of physician and surgeon may now find in obstetrics opportunities virtually illimitable for the worthiest and most useful exercise of his talents and skill, for it embraces the whole scope of theory and practice affecting the health and lives of women and their offspring. Even the modest average practitioner, if of the proper grade of intelligence, may enter it with confidence. In either case, to repeat a trite, but never needless, suggestion, it will be found that "soap and water and a good hand brush," with all that this implies will be important essentials for success.

DISCUSSION.

DR. W. A. SHANNON, Seattle, declared that all obstetric cases should be treated like surgical cases, and the same precautions taken as in a surgical operation. Then there will be very little trouble with these cases. Dr. Shannon has for some time adopted the method of wearing rubber gloves during his obstetric work, believing it to be eminently proper. A physician is apt to be in a hurry to get away from the house and is likely to extract the placenta too early. He should wait at least twenty or thirty minutes after the birth of the child before expelling the placenta. The external genitals should be scrubbed thoroughly at the beginning of labor, shaving the parts, if necessary. The patient also should be prepared as if for the repair of a lacerated perineum.

DR. J. A. MCKENNA said that he has tried rubber gloves and found them in the way and even risky, inasmuch as he could not control the perineum nor make proper traction on the cord while wearing them. He always expels the placenta, or attempts to, as soon as he ties the cord. If the nurse has grasped the uterus properly from above, the placenta will be ready to be expelled in 95 per cent. of the cases as soon as the physician is prepared to deliver it. Nor are the after pains so severe if the uterus is held and the cavities in which blood clots may develop not allowed to form.

SUPERIOR ACCESSORY THYROIDS.*

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Some writers call the accessory thyroids, "lingual goiter." The term "goiter" given to such affections is an improper one, since the histo-pathology shows that not all aberrant or accessory thyroids have the structure of a goiter, which implies a pathologic thyroid. In several instances the histology of the accessory gland was exactly the same as that of the normal thyroid.

* This article was prepared to be read before the Section on Surgery and Anatomy of the American Medical Association at the Portland session, July, 1905, but the author was prevented by sickness from being present.

Perhaps, even the term "accessory" is not proper, since in some cases, as will be seen later, the so-called accessory thyroid was the only one of the individual. Aberrant thyroids would be the most satisfactory term, indicating a thyroid situated outside of the normal area. For the sake of convenience, however, I will respect the term "accessory" generally used in the description of these tumors. While anatomists, and even pathologists, are more or less familiar with the accessory thyroid, the clinician has rarely an opportunity to meet such tumors. On account of their very rare occurrence, and because of the grave and even fatal errors that might result from the lack of information concerning such tumors, the study of accessory thyroids must be of interest to every surgeon.

HISTORICAL.

Accessory thyroids were known to the old anatomists. Albert von Haller (1779) once saw an accessory thyroid occupying the middle of the thyroid cartilage, and not connected with the thyroid proper. In 1839 von Haller referred to accessory thyroids. Gruber[1] found the isthmus separated from the thyroid and located above it in 2 out of 40 cases. In 1853 Verneuil,[2] while dissecting the muscles of the tongue, found a sessile body the size of a pea situated between the geniohyoid and genioglossus. It proved to have the structure of a normal thyroid.

The accompanying table shows there are not more than 39 cases on record. The first ones were those of Hickman of England in 1868; of R. Wolf of Hamburg, and Bernays of the United States. The rarity of these tumors is also confirmed by the fact that standard textbooks, such as those of Mackenzie, Cohn, Ingals and Bosworth, make no reference to them.

In 1897 Chamisso de Boncourt[3] was able to collect 15 cases of accessory thyroids at the base of the tongue.[4]

EMBRYOLOGY.

The thyroid develops from three anlages, one median and two lateral (von Kölliker, Wölfler, His and Stieda). The median anlage originates, according to Born, from the epithelium of the pharynx, while the lateral ones develop from the epithelium of the fourth branchial cleft (Fig. 1).

The median anlage develops from that part of the sulcus arcuatus which is behind and close to the tuberculum impar (Fig. 1, A). The sulcus arcuatus is the groove situated between the tissue which will become later the epiglottis, and the tuberculum impar, which will become later the tongue. The epithelium of the median anlage becomes thickened, it sinks deeper during the elongation of the neck of the embryo and becomes in this way distant from the inner surface of the pharyngeal opening, with which it is connected by a "slender, hollow pedicle" (Minot), the ductus thyreoglossus. The opening of this duct on the dorsum of the tongue corresponds to the foramen cecum (Fig. 1, B, Fig. 2, 1).

His[5] has found in embryos of from 7 to 7.5 mm. that the thyroid is composed of a small bilobed vesicle projecting a pedicle toward the surface of the tongue. In the seventh week of intrauterine life, the three anlages fuse together (Minot).

At eight weeks the thyroid gland, according to Mueller, is composed of two lateral lobes and a connecting isthmus. The glandular acini develop centrifugally, and, according to His, their development begins in the human embryo at eight weeks.

According to Mueller, at eight weeks the gland is composed of cylindrical tubes only, 0.014 mm. in diameter. Kölliker admits the existence of glandular vesicles besides.

After twelve weeks Kölliker found vesicles of 0.03-0.11 mm. The glandular cells commence to secrete between the sixth and eighth weeks of intrauterine life (Horsley). Podack, however, found developed follicles with cylindrical epithelium and colloid material much later (five-months fetus). A remarkable feature in the embryology of the thyroid is the richness in vessels in all of the embryos.

THYROGLOSSAL DUCT (FIG. 2.)

According to Butlin and Spencer,[6] the word "tract" should be substituted for that of duct, since "there is no evidence of the existence of a duct in any living animal, either during embryonic or later life."

At the end of the tract there is a depression one centimeter in depth, called foramen cecum, first described by Morgagni and afterward by Bochdalek. This is characteristic of man; it has not been found in other mammals, not even in monkeys. According to Butlin and Spencer, the dissected sinus in the Royal College of Surgeons (physiologic series, 1,526 B). may be a simple artefact. The thyroglossal duct or tract connects the thyroid isthmus with the apex of the lingual V. On the level of the hyoid bone the duct is connected with the bone itself, periosteum in front, and with the thyrohyoid bursa behind. The thyroglossal duct was first studied by His in human embryos. Kanthack denied the existence of such a duct, since he could not find it in 100 adult tongues nor in 60 fetal and children's tongues. Kanthack, probably, searched for the duct at a late period, when every trace of the existence of such a duct was lost. Cysts lined by ciliated epithelium, however, tumors having the structure of a thyroid situated between the middle lobe and the foramen cecum, sustain the existence of such a duct. Embryologic remnants of the middle anlages are also found in animals, and may be displaced downward. Wölfler found in dogs, and Van Bemmelen and Meuron in embryos of sharks, batrachians and lizards, small glandular masses immediately above the arch of the aorta. They are called "aortic glands" and are embryonic remnants of the middle lobe. In man the corresponding remnants are always situated above the normal thyroid, never below. The existence of the embryonic thyroglossal tract can not be denied since a case of congenital accessory thyroid causing asphyxia is on record.

PHYSIOLOGY OF THE THYROID GLAND.

I will not go much into details concerning the physiology of the thyroid gland. Various functions have been ascribed to it, so numerous, so different, that it would require a special article to enumerate them. From clinical and experimental observations, we know to-day that the thyroid is an organ with internal secretion, its products destroying toxic metabolic substances, which normally accumulate in the blood. The ablation of the thyroid gland is followed by nervous and metabolic de-

1. Gruber: "Ueber die gland thyroidea accessoria," Virchow's Archiv, vol. lxvi, pp. 447-454.
2. Verneuil: Archives générales de médecine, 1853, p. 464.
3. Chamisso de Boncourt: Deutsche Zeitschr. f. Chir., vol. xlv, 1897.
4. Those who are interested in the literature of the subject are referred to the following: Deutsche Zeitschrift f. Chir., vol. xlv, 1897; Deutsche Chirurgie (Pitha-Billroth), vol. ii; Monograph "Schilddrüse," Von Eiselsberg; "Diseases of the Tongue," Butlin and Spencer; Annals of Surgery, Sept., 1904, p. 323.
5. His: Anatomie Menschlicher Embryonen, iii, p. 64-81.
6. Butlin and Spencer: "Diseases of the Tongue," p. 4.

rangements. Astley Cooper and Rapp were the first to remove thyroids in animals. The former observed that after the extirpation of the thyroid the animal becomes sick and stupid. The latest experimenters have invariably observed that the removal of the thyroid is followed by tetany or cachexia, both equally fatal. In solitary cases where the animals remain healthy after the removal of the thyroid, von Eiselsberg assumes that, in all probability, the salivary gland was removed instead of the thyroid, or that the thyroid was only partially extirpated; or, as I believe, that accessory thyroids have taken the function of the true thyroid. Extirpation of half a thyroid is not followed by tetany. If a part of the other half is extirpated, however, tetany may occur. How much thyroid should be left in order not to compromise the function of the gland, is difficult to say. In some cases very little glandular tissue proves to be efficient; then again a large mass of gland fails to perform the function sufficiently. The glandular mass left after a partial extirpation of the thyroid is subject to ulterior macroscopic and microscopic changes. The gland left generally becomes hypertrophic.

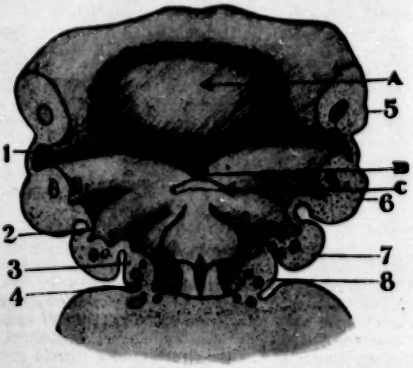

Fig. 1. Vertical section through pharynx of a human embryo of 10 mm. 1, 2, 3, 4, bronchial clefts; 5, 6, 7, 8, bronchial arches. A, tuberculum impar, forming front portion of tongue; B, foramen cecum; C, Anlage of thyroid gland. (After His. Reproduced from Annals of Surgery, September, 1904, page 322, Henry A. Storrs).

PHYSIOLOGY OF ACCESSORY THYROIDS.

In many instances, it is presumed, the accessory thyroid supplements or takes the function of the normal thyroid. Our supposition is supported by experiments. Von Eiselsberg[7] refers to a goat which did not develop myxedema after removal of the normal thyroid. He adds that the goat had an accessory thyroid. Another goat of the same parentage, not possessing an accessory thyroid, developed pronounced myxedema after the removal of the normal thyroid. Recently, I have extirpated the thyroid of a goat, for the purpose of studying the "compensatory changes"—if any—in various organs. The tissues removed had, histologically, the structure of normal thyroid. To my great surprise, the thyreoidectomized goat is in excellent health, and has not developed myxedema. I have not acertained, as yet, whether the goat possesses accessory thyroids. In some cases, however, the presence of an accessory thyroid failed to prevent the recurrence of myxedema when the thyroid was removed.

PHYSIOLOGIC COMPENSATION.

In some instances the removal of the thyroid was followed by hypertrophy of the pituitary body. Some physiologists believe this is compensatory. Other organs, as for instance, spleen and thymus, enlarge after the removal of the thyroid, but whether there is any relationship between the ablation of the thyroid and the hypertrophy of these organs, or in other words, whether these organs make a compensatory attempt, it is difficult to say.

CLASSIFICATION.

To begin with, accessory thyroids are classified as (a) true and (b) false. True accessory or aberrant

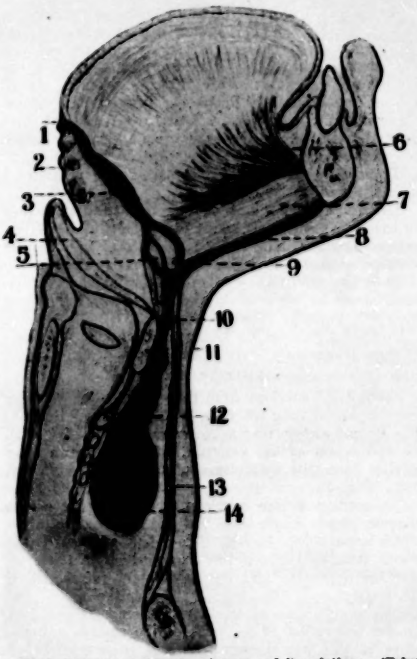

Fig. 2. Diagram of thyroglossal tract and its relations. (Taken from "Diseases of the Tongue," Butlin and Spencer). 1, foramen cecum; 2, lingual tonsil; 3, thyroglossal tract above hyoid bone; 4, epiglottis; 5, thyrohyoid bursa; 6, geniohyoglossus muscle; 7, geniothyroid muscle; 8, mylohyoid muscle; 9, hyoid bone, 10, thyroglossal tract in front of thyrohyoid ligament; 11, thyroid cartilage; 12, cricoid cartilage; 13, sternohyoid raphé; 14, isthmus of thyroid gland.

thyroids are those not connected with the tissue of the thyroid proper. False thyroids are considered those which are found within some distance of the normal thyroid but connected with the gland. Offshoots of the isthmus, the unusually long pyramid, may be considered as a false accessory thyroid. Baurowiez[8] says that the intratracheal and intralaryngeal accessory thyroids are offshoots of the normal gland.

7. Von Eiselsberg: Deutsche Chirurgie, "Schilddrüse."

8. Baurowiez: Arch. f. Laryng., vol. viii, p. 2.

Several classifications have been given with very little variation. Madelung classifies them as superior, inferior, posterior, anterior, lateral, endolaryngeal and endotracheal. The hyoid is the dividing line between the superior and inferior accessory thyroids.

Streckeisen[9] classifies the tumors in the region of the hyoid bone as follows:

a. Glandulæ præhyoideæ, in front of the mylohyoid and hyoid bone.

b. Glandulæ suprahyoideæ, small nodules above the attachment of the mylohyoid muscle.

c. Glandulæ epihyoideæ, between the hyoid bone and the foramen cecum.

In this paper I will deal only with accessory thyroids between the hyoid and the foramen cecum; in other words, along the original course of the thyroglossal duct, in the middle line. The superior accessory thyroids situated to either side of that line will not be considered.

LOCATION AND TOPOGRAPHY.

The distribution of accessory thyroids is very wide. The field in which they may be found can be roughly represented by an inverted trapezoid, the larger base being a line running from one apex of the mastoid process to the other; the smaller base is a line tangential to the arch of the aorta, and the sides are the two sternomastoid muscles. Accessory thyroids have been described outside of the area above mentioned. Osler, for instance, mentions them in the pleura. They have been found in the bones, the abdominal cavity and in various organs also. Such tumors must be considered as decidedly metastatic. The occurrence of accessory thyroids is embryologically explained when they are found in the area above mentioned.

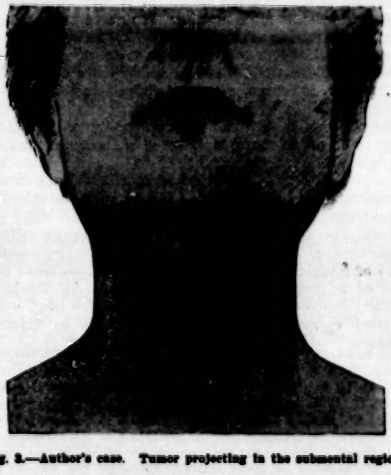

Fig. 3.—Author's case. Tumor projecting in the submental region.

Eberth[10] found small nodules in the lungs of a dog which he considered as metastases traveling along the pulmonary arteries and veins (in other words, hematogenous metastases). Neumann[11] extirpated a tumor the size of an apple situated in the region of the elbow. It had the structure of a thyroid and was considered by him to be a colloid sarcoma from the thyroid.

Tavel[12] mentions two interesting cases, one of struma metastatica of the pelvis and the other of metastasis of the thyroid tissue in the parovarian region. Streckeisen found gland particles in the hyoid bone; according to him, the existence of these is explained by the inclusion of embryonic elements of the thyroglossal duct when the hyoid bone is cartilaginous.

K. S. De Graag[13] has referred to a case of struma with metastases in the bones. Patient had a swelling on the neck for eight years. Shortly before death he developed paraplegia. The postmortem revealed a carcinomatous tumor pressing on the spinal cord, containing follicles with colloid substance like the struma itself. It was a spinal metastasis of a malignant thyroid.

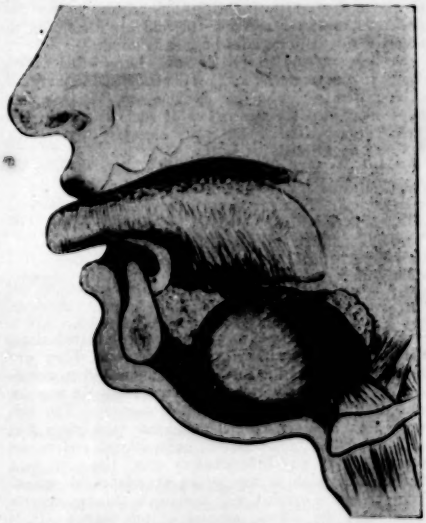

Fig. 4. Author's Case. Section, showing the position of a sublingual accessory thyroid.

I had a case[14] at Mercy Hospital of carcinoma of the thyroid with metastases in the sternum. A spontaneous fracture of the left femur occurred later, which was due to a carcinomatous metastasis from the primary carcinoma of the thyroid (Fig. 3). As I stated in the Year Book for 1903, the bones are the seats of election for secondary carcinoma of the thyroid gland, and should be suspected in all cases of malignant thyroid.

Bland-Sutton[15] refers to non-malignant metastases of the thyroid in the cranial bones.

When the malignancy of the thyroid proper can not

9. Streckeisen: Beiträge zur Morphologie der Schilddrüse, Virchow's Archiv, v. cili.
10. Eberth: Virchow's Archiv, vol. lv.
11. Neumann: Langenbeck's Archiv., vol. xxiii.
12. Tavel: Arch. Prov. de Chir., 1904, No. 5.
13. K. S. DeGraaz: Mittheil. aus dem grenzgeb. der medizin u. Chir., 1903, ix, p. 622.
14. Murphy, J. B.: Year Book, General Surgery, 1903.
15. Bland Sutton, Tumors, 1903.

be determined, however, we should bear in mind that simple adenomata which are considered as benign may show a malignant tendency and give metastases.

ETIOLOGY.

Age.—Accessory thyroids manifest themselves at any age. They have been found in the new-born and in the aged. Hickman's case was a child 2 days old; while in the case of Staelin the tumor was found at a postmortem in a woman of 77. According to Onodi, they develop most frequently between 12 and 35 years of age.

Sex.—All writers have observed that these tumors occur mostly in women. The relationship between changes in the female genitalia and the thyroid has been noted (as illustrated in the frequent hyperplasias and degenerations of the thyroid at puberty, immediately following parturition, abortion and pathologic menopause). In the case of Shadle, during suppression of menstruation the accessory thyroid became more swollen and more vascular. We have no palpable explanation for this relationship, but venture to say the development of the accessory thyroid has something to do with the abnormalities of menstruation.

Occurrence.—Accessory thyroids have often been found in postmortems, and particularly in the morgues of countries where goiter is common. Pathologists have mentioned the occurrence of such tumors in the Tyrol. Streckeisen found many accessory thyroids in the pathologic institute at Basle.

Exciting Causes.—In most of the cases there is no palpable cause for the rapid development of the accessory thyroid. In a few cases, however, acute infectious diseases may be considered as an exciting cause. In Warren's patient grippe was considered its excitant; in Wolf's patient, whooping cough, and in several instances puberty was closely related to the development of these tumors.

PATHOLOGIC ANATOMY.

As we stated before, only the tumors situated along the thyroglossal tract will be considered. They are generally found at the base of the tongue, either elevating the organ by their size, or penetrating the muscles and forming an elevation on the dorsum. The size varies from a cherry to an egg, and may even attain that of a fist. The tumor is well encapsulated and is not surrounded by any inflammatory area; the color is a bluish red, which is due to the abundance of vessels. The surface is covered with a smooth, shining mucous membrane, the normal mucosa of the tongue. It is traversed by many vessels, not only on the surface, but even penetrating the tumor. The consistency is soft, and it is often difficult to decide whether one has to deal with a soft tumor or a cyst. Tumors at the base of the tongue are generally single; in Bernays' case, however, the tumor on the dorsum of the tongue was accompanied by another one immediately above the hyoid bone. The tumor may be movable if it is small, or immovable if it attains a great size. It is usually smooth, but it may be made irregular by the existence of small cysts. The contents of the cysts are generally colloid material; if the cyst is large and the vascularization great, the contents may be bloody.

As to the origin of these tumors, according to Butlin and Spencer, there are two theories:

a. They originate from the follicular glands situated on the dorsum of the tongue, or, it would be better to say, from the glands behind the circumvallate papillæ.

b. They are remnants of the thyroglossal tract.

The first theory was originated and is sustained only by Bowlby. I question the theory, as it would require a transmutation of cells both anatomic and physiologic. Such metamorphosis from squamous to columnar epithelium is very rare, even if at all possible. The second theory is supported by Bernays and Bland-Sutton, and by most of the writers who have described such tumors. This explanation is analogous to those referring to many other embryonic remnants.

Butlin considered these tumors at the beginning as simple edenomata, but finally admitted that they were products of embryonic thyroid remnants, and therefore true thyroids.

Some tumors show the structure of a normal thyroid, spaces lined by cubical epithelium and containing some colloid material. Some show the structure of a goiter, some contain embryonic tubules. In Kraske's case, the tubules contained a great many embryonic thyroid cells; in other cases we find cystic conditions.

The accessory thyroid may be encountered where a thyroid exists in the normal location. In several instances, however, the accessory thyroid was the only thyroid found. The accessory gland may undergo cystic degeneration and form large cysts extending from the hyoid bone to the foramen cecum, or it may become malignant; or be, to all appearance, benign and still malignant in its tendency, as is proved by its recurrence after removal and the production of metastases. We know, from Cohnheim, that adenoma gelatinosum of the thyroid, which is benign, may give metastasis.[16] It is also known that enchondromata and myxomata, which are generally benign, may run a malignant course. In 1883 Bryant described a cyst at the base of the tongue reaching the circumvallate papillæ of five months' standing in a girl of 18. It was lined with ciliated epithelium. Johnson describes a congenital cyst situated between the circumvallate papillæ and epiglottis, and lined by several layers of flattened epithelium. In young adults, regardless of sex, cysts situated below the mylohyoid may be found; they are small at first, but may reach the size of a mandarin orange (Lizras). As Durham showed in his researches, these cysts are also lined with ciliated epithelium and arise secondarily in thyroid tumors.

PERSONAL CASES.

Case 1.—Mrs. M. M., aged 34, admitted to Mercy Hospital April 12, 1905; operated on April 13.

***Family History.*—One grandmother had epithelioma of the lip. The other grandmother had carcinoma of the breast.**

***Personal History.*—Patient menstruated at 15; it was regular, not painful; no intermenstrual discharge; the amount of menstrual fluid was usually large. Married at 25. Gave birth to five children under normal conditions; no abortions.**

***Previous Illnesses.*—Negative.**

***Present Illness.*—Fifteen years ago patient had a tumor at the base of the tongue. She was admitted at the time to the Presbyterian Hospital, Chicago. The condition was not diagnosed, but an attempt was made to operate on the tumor through the mouth. So profuse was the hemorrhage that the surgeon had to discontinue the operation. Following that attempt the patient improved, though the tumor did not disappear. She says of the accident during the operation, "I nearly bled to death." Five days after the operation the patient had a second hemorrhage. In the course of time the tumor did not cause very much inconvenience, with the exception of some mechanical irritation. Patient even states that the tumor reduced somewhat in size in the first six years after the surgical attempt. Nine years ago patient noticed below the old tumor a new one protruding in the submental region a little**

16. Virchow's Arch., vol. lxviii.

to the left of the median line (Fig. 3). No serious derangement was noticed. The tumor increased greatly in size until it reached its present dimensions, about those of a hen's egg (Fig. 4). No disturbances of mastication, deglutition or respiration were noticed by patient. General health very good; appetite fair. No gastrointestinal or genitourinary symptoms. No loss of weight or strength in the last fifteen years.

Operation.—The tumor was exposed by a longitudinal incision through the muscles, starting from the symphysis menti and extending down to the hyoid bone. The geniohyoid muscles were separated by retractors (Fig. 5). The tumor could be circumscribed by the finger and was enucleated without difficulty. There was no hemorrhage. The wound was closed in the usual way. The day following the operation, patient's temperature reached 101 degrees. On the sixth day there was primary union of the wound. On the ninth day there was some retention of serum and blood under the skin which necessitated a separation of the edges of the wound to allow their escape. No drain was inserted. The patient was discharged cured, April 22.

CASE 2.—Mr. C. H., aged 45, farmer, was admitted to Mercy Hospital Jan. 30, 1901.

Family History.—Negative.

Personal History.—Patient was born in Germany and came to the United States when a boy. A man of good habits. Married at 18; had six children, all living and in perfect health.

Previous Illnesses.—In September, 1900, patient was kicked in the hypogastrium. The accident was followed by hematemesis and distension of the abdomen; elevation of temperature. Gradually recovered and was able to resume his work as before.

Present Illness.—Three weeks ago, while looking in his mouth through the mirror, he noticed a swelling at the base of the tongue and slightly to the left. From this time up to his entrance to the hospital, the patient did not have any pain nor discomfort. He had no difficulty of mastication, deglutition or respiration. Was operated on January 31.

The microscopic sections showed large glandular lumina filled with colloid material (Fig. 7).

SYMPTOMS, DIAGNOSIS, DIFFERENTIAL DIAGNOSIS.

The diagnosis of the accessory thyroid is very difficult. At first there are practically no symptoms; possibly the patient may have noticed the growth for some time, but may not have suffered any inconvenience from it. As soon as the tumor begins to enlarge, the patient complains of "lump in the throat." There is some difficulty in deglutition; salivation may be increased; some patients have a reflex dry cough not accompanied by expectoration. Most patients notice a change in the pitch of the voice; the voice may be either impaired or entirely changed. When the tumor attains a certain size patients complain of dyspnea, and if the epiglottis is pressed down, symptoms of suffocation may follow. Some patients notice from time to time an iron taste, due to the insignificant oozing of the tumor, or, in case of the rupture of a vessel, the patient may have from a moderate to a very severe hemorrhage. The absence of pulmonary physical signs, cough, expectoration and bacilli or that of gastric symptoms excludes hemoptysis or hematemesis. Generally, there are no constitutianl symptoms; anemia, however, may be present in those cases where oozing or hemorrhage has been present for some time. In Schadle's case there was a marked wasting and nervous exhaustion. The discovery of the tumor is generally a source of great mental anxiety to the patient. Many are of the opinion it must be a "cancer," and that an operation will involve the tongue.

Generally speaking, whenever a diagnosis of the true nature of a tumor of the neck is not well established, an accessory thyroid should be suspected (Hinterstoisser).[17] If a tumor is found at the base of the tongue or between the hyoid and the base of the tongue, in or near the middle line, if there is no inflammatory reaction around the tumor, if there are no marked subjective symptoms, and if it undergoes periodic variations in size and tension, if the patient be a woman, and especially one who complains of some disturbance of menstruation, the condition is highly suggestive of an accessory thyroid. The diagnosis may be greatly facilitated if, with the presence of such a tumor, we fail to find the thyroid in its normal location. The accessory thyroids are probably more frequent than is believed, judging from the number of recorded cases. They are generally not diagnosed until they become large, strumous, or until they cause alarming symptoms. I think it would be a good practice to administer in each case of suspected accessory thyroid, thyroid tablets. If it then diminishes in size, one could be certain that one's diagnosis was correct. Some surgeons have punctured or attempted to aspirate the contents, which appeared to them to be cysts. Such attempts have been very discouraging, since puncture is often followed by profuse hemorrhage. No fatalities have resulted; nevertheless, I believe such a procedure must be considered both useless and dangerous.

DIFFERENTIAL DIAGNOSIS.

After a tumor has been diagnosed at the base of the tongue, either by inspection, palpation or the use of the laryngoscope, if the tumor protrudes on the dorsum of the tongue, the first thought which occurs to the surgeon is whether it is malignant or benign. The absence of ulceration, the fact that the tumor is well circumscribed, even encapsuled, the absence of glandular enlargement, of constitutional symptoms, of pain, the long-standing of the tumor, the fluctuation in size, and the general youth of the patient, undoubtedly dispel the suspicion of a malignant tumor.

The conditions which have to be considered in making a differential diagnosis are as follows:

1. *Cysts.*—Above the hyoid bone in the middle line, cysts are found that are not embryologic remnants of the thyroglossal tract. They may be due to an inclusion of epithelium, which develop suddenly after a local irritation. These are cysts due to remnants of branchial clefts, retention cysts of excretory glands, dermoid cysts.

2. *Ranulæ.*—A ranula is due to a retention in the duct of the sublingual or submaxillary gland. The tumor appears on the floor of the mouth and pushes the tongue to one side. It has a thin wall and its contents are semi-translucent. The tumor may be covered by abundant and large veins, in which case the differential diagnosis from an accessory thyroid is difficult. The subjective symptoms are in many respects similar to those of accessory thyroids.

3. *Polyps.*—These are due to a hyperplasia of the lymphatic tissue at the base of the tongue, syphilis and tuberculosis being generally the etiologic factors. Children with hypertrophic tonsils frequently have these lymphatic masses under the tongue. The enlargement of the lingual tonsil may form a tumor to the side of and behind the tongue. "Lyssa" (hypertrophy of the tonsils of the palate) may simulate an accessory thyroid by its location.

4. *Papillomata.*—These are rare. They are divided by Albert into flat and pedunculated.

17. Hinterstoisser: "Beiträge zur Lehre vom Nebenkropf," Wien.

CASES OF SUPERIOR ACCESSORY THYROIDS RECORDED FROM 1869 UNTIL THE PRESENT.

Author and Publication.	Location.	Age.	Sex	Time Between Appearance of Tumor and Operation.	Was the Thyroid Present in its Normal Location?	Results.	Remarks.
1—Hickman: Trans. London Path. Soc., 1869. Vol. xx, p. 169.	Base and substance of the tongue.	2 days.	F.	.....	?	Death by asphyxia...	No operation; tumor found at autopsy; child died from asphyxia.
2—Loecke: Pitha Billroth's "Handbuch der allg. u. speciellen chir., ii, p. 288," also by Morton, Arch. Anat. and Physiol. 1870, p. 6683.	Tumor size of a fist, situated between the hyoid and the substance of the tongue.	22 yrs.	M.	Congenital....	?	Recovery in six weeks	Removed through the mouth.
3—E. Parker: Trans. London Path. Soc., 1881. Vol. xxxii, p. 223.	"Tubular adenoma of root and dorsum of tongue."	16½yrs.	F.	?	?	5 years later, half of tumor reproduced; no inconvenience.	"Glandular tubes with cubic epithelium, containing a plug of gelatinous material."
4—Bernays: St. Louis Med. and Surg. Journ., Oct. 1883. Vol. iv, p. 289.	Two tumors: Size of cherry at foramen cecum, size of "bantam's egg," extending down toward hyoid bone.	17 yrs.	F.	?	?	Complete recovery in 14 days.	Removed by submental incision.
5—Butlin: Trans. Clinical Soc., vol. xxiii, p. 110, and Brit. Med. Jour., Dec. 1, 1894.	1. March 6, 1889, tumor size of hen's egg, removed from base of tongue June, 1889; another appeared in same place. Removed again.	32 yrs.	F.	One year.....	?	Return of tumor in 2 months; disappeared (after second removal).	Removed through mouth.
	2. Similar tumor, smaller in size.	22 yrs.	F.	Six years.....	?	Slight return; no inconvenience.	Removed through mouth by galv.-caut. loop.
6—Wolf: Arch. of Clin Chir., 1893. Vol. xxxix, p. 193.	Tumor size of nut, situated at left of base of tongue.	18 yrs.	F.	Six years.....	?	No return.....	Submental incision. Inf. maxilla, tongue divid.
7—Sedillot: Jahr. der Kinderkrankheiter. 1891—92, p. 413.	Tumor extending from epiglottis to base of tongue.	77 yrs.	F.	No operation.	?	Tumor found at autopsy—died from pneumonia.	No symptoms intravitam. Sections showed normal thyroid.
8—J. Collins Warren: Am. Jour. of the Med. Sciences, 1892. Vol. civ, p. 377.	Tumor size of hen's egg, situated at base of tongue.	32 yrs.	F.	22 years.....	?	No return of tumor...	
9—Gelish: Deutsche Zeit. f. Chir., 1894, vol. xxxix, p. 520.	Submental tumor size of a walnut.	24 yrs.	F.	Four months..	Present, normal	No recurrence.....	Submental incision; knife.
10—Sauer: Soc. of Laryngol. of Lond., Oct. 1894.	"Swelling" at base of tongue.	16 yrs.	F.	Nine weeks...	?	Recurrence of tumor.	Submental incision; galv.-caut. loop.
11—McIlraith: Brit. Med. Jour., Dec. 1, 1894.	"Lump" on dorsum of tongue.	17 yrs.	F.	Two months..	?	No recurrence.....	Removed through the mouth by knife.
12—S. J. Mixter: Mass. Gen. Hosp. Reports, Aug., 1895.	Small tumor at dorsum of the tongue. Another under the symphisis menti.	24 yrs.	F.	Three weeks..	?	No recurrence.....	Submental tumor connected with the thyroid; not a true accss. thyoid.
13—Lumpius: Deutsche Zeitschr. f. Chir., 1897. Vol. xliv, p. 452.	Tumor at base of tongue.....	34 yrs.	F.	Hoarseess for years; swelling for two.	?	No recurrence.....	Removed through mouth. Tracheotomy.
14—Sokolowitsch: Centrlb. f. Chir., 1897, p. 689.	Tumor cherry-size, projecting on dorsum of tongue.	34 yrs.	F.	?	Absent	Myxedema after six months.	Galvano-cautery used.
15—Krauke: Reported by v. Chaussage in Beitr. zur Klin. Chir., 1897. Vol. xix, p. 281.	Tumor at base of tongue, more to the right.	37 yrs.	F.	?	Thyroid found absent before op'n.	Myxedema.....	Cretin preceding operation; removed through mouth; tracheotomy.
17—Beintjes of Nymegen: Reported May 23, 1898, at Soc. of Laryng. and Otolog., Holland.	Tumor at base of tongue.....	25 yrs.	M.	?	Absent.....	Myxedema.....	Hemorrhage preceded the operation.
18—Treitel: Reported at Berlin Med. Soc., May 25, 1898.	Sublingual tumor.....	?	F.	20 years.....	?	No operation performed.	
19—Benjamins: Nederl. Tijdsch. voorgeneesk., 1898.	Goiter at base of tongue.....	?	M.	?	Absent	Myxedema.....	
20—Posthumus Meyjes: Soc. of Otology and Laryngol. of Belgium, June 4, 1898.	Right half, base of tongue...	24 yrs.	F.	"Potato" in throat since childhood.	Absent	No operation	Bloody salivation.
21-22—Schaefer: The Journal of A. M. A., Aug. 12, 1899, p. 393.	1. Tumor size of an English walnut. Very vascular.	25 yrs.	F.	Six months...		Removal first followed by hemorrhage; second by perfect recovery.	Electrolysis for 2 months, later, submental enucleation. Irregular mucous since appearance of the tumor.
	2. Tumor at base of tongue.	23 yrs.	F.	Ten years.....		Patient refused operation.	
23—Holmes: Reference in The Journal A. M. A., Aug. 12, 1899, p. 393.	Tumor size of hen's egg at base of tongue.	Young wife.	F.	?	?	At time of report, "only a small mass left."	
24-25—Watson: New York Med. Jour. Vol. lxx, p. 579, Oct. 21, 1899.)	1. Tumor at base of tongue, from epiglottis to circumvalate papillæ.	30 yrs.	F.	"Lump in the throat" for 10 years.		No recurrence shortly after operation.	Partial removal by galv.-caut. loop.
	2. Similar location.	16 yrs.	F.	Five years....	?	No recurrence	Galv.-caut. was used.
26—Vallas: Rev. de Chir., May 10, 1900.	Small tumor protruding on back of tongue	22 yrs.	F.	?	?	Tumor increased in size in 6 months.	Submental incision associated with puncture through mouth.
27—Theisen: Albany Med. Ann., 1901. Vol. xxii, p. 537.	Tumor at base of tongue.....	67 yrs.	F.	?	Absent at examination.	No operation, account of advanced age.	Variation in size of tumor goitre when young.
28—Curtis and Gleitsmann: Revue Hebdomad. de Laryngologie, Otol. et de Rhinologie. Vol. xxiii, p. 417, April 13, 1902.	Tumor size of a nut situated at foramen cecum.	21 yrs.	F.	Five years....	?	Excision—recurrence; operation 3 years later—no recurrence.	Tumor had structure of a colloid goitre.
29—Winslow: Amer. Med. Dec. 13, 1902.	Tumor, oval in shape, situated at base of tongue.	17 yrs.	F.	?	?	No recurrence.....	Patient always complained of sore throat.
30—Smith: Nord. Med. Arkiv., 1902. Vol. i, No. 2.	Tumor at base of tongue.....	48 yrs.	F.		?	No recurrence.....	Removed by "transhyoid pharyngotomy."
31—Teweles: Wien. klin. Woch., Feb. 20, 1902.	Tumor, root of tongue, 5 cm. in diameter.	13 yrs.	F.	?	Present, normal. ?	No recurrence	Tumor had structure of normal thyroid.
32—A. Onodi: (Budapest) Arch. f. Laryn. u. Rhin. 13, 1902-03, p. 443.	Tumor occupying left half of base of tongue.	36 yrs.	F.			No recurrence	
33—Dandier and Chevallier: La Presse Oto-Laryngol., Belge., January, 1903.	Tumor at foramen cecum.....	20 yrs.	F.	Three years...	Thyroid absent.	No recurrence; no myxedema.	Subment. incis.; div. of hyoid bone; portion of tumor was left in place.
34—Case of Gorris.....	Lingual tumor.....	?	?	?	(?) Probably absent.	Myxedema followed the operation.	
35—L. R. G. Crandon: Reported by H. E. Storrs in Ann. of Surg., Sept., 1904. p. 324.	Tumor size of nut situated at base of tongue.	9 yrs.	F.	1¼ years.....	?	No radical operation at time of publication.	Operation undertaken, but hemorrhage so profuse that operation had to be stopped.
36—J. B. Murphy: Present paper.	1. Submental tumor.....	34 yrs.	F.	15 years.....	Present	No recurrence.....	Submental incision.
37—.....	2. Sublingual tumor to left of base of tongue.	45 yrs.	M.		Present	No recurrence.....	
38—Oliver C. Smith: N. Y. Med. Jour., 1904. lxxx, p.818.	Acc. thy. on the post. third of the tongue.	50 yrs.	F.	Seven years...	Thyroid ?	Operated 3 times, recured twice, third time no recurrence.	Cocain tumor extirpated by ecraseur. No hemorrhage.
39—Allen Ingersoll, Ludlow. Surg. Gyns. and Obstetries, 1905. No. 3, page 205.	Tumor, base of tongue.....	18 yrs.	F.	Three years...	?	No recurrence.....	Removed through mouth by knife, profuse hemorrhage.

5. *Angiomata.*—These are frequently found at the base of the tongue. They have the same aspect as the accessory thyroids and may present the same clinical feature, that is, oozing or hemorrhage. The color of the angioma, however, is of a deep blue, almost black, and it empties by pressure.

6. *Lipomata.*—This form of tumor is very rare at the base of the tongue. The lemon-yellow color is highly suggestive of this tumor. A puncture would not cause bleeding; there is absence of oozing or hemorrhage.

7. *Fibromata.*—Fibromata in this location are rare. They may be pure or mixed. According to Fisher, they are submucous and are either single, double or triple. They reach the size of a pigeon's egg, have a pale color, and seldom bleed. There are on record two cases of fibroma of the tongue, one described by Pooley and the other by Fith. The first case was that of a girl. The tumor caused symptoms of suffocation and hemorrhage, both of which are met with in accessory thyroids; the differential diagnosis was therefore impossible.

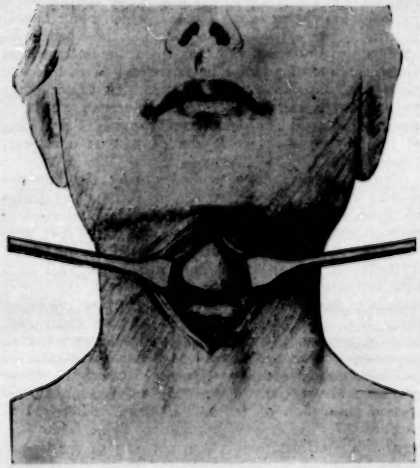

Fig. 5. Author's case. Tumor exposed by a submental vertical incision.

Gibb described a fibroid tumor the size of a billiard ball a little to the left of the base of the tongue. In the museum of the Royal College of Surgeons there is a specimen of a fibroid tumor the size of a walnut, situated at the base of the tongue.

8. *Syphilitic Gumma.*—In the absence of a history of syphilis, one should be able to find some syphilitic stigmata. The gumma usually has a tendency to ulcerate; it is not vascular. Anti-syphilitic treatment would be of great value, since tertiary affections are frequently benefited by specific treatment.

9. *Tumors of the Larynx.*—These first give disturbance of speech and generally distinct symptoms of asphyxia, and should be carefully differentiated.

In the differential diagnosis I desire to call attention particularly to the clinical course, the duration of the growth and the presence or absence of the normal thyroid.

TREATMENT.

The treatment is both medical and surgical. Medicinal treatment is generally unsatisfactory. Iodid of potassium occasionally slightly diminishes the size of the tumor. Local application of astringents may also reduce the size somewhat. External counterirritants have been applied, although without any satisfactory results. I suggest the use of thyroid tablets, which have proved to be of benefit in both exophthalmic and simple hypertrophic goiter. Before resort to surgical treatment it is an absolute duty to ascertain whether or not the patient possesses a thyroid in the normal location. As the accompanying table shows, grave mistakes have been made by surgeons who did not

Fig. 6.—Section of a normal thyroid.

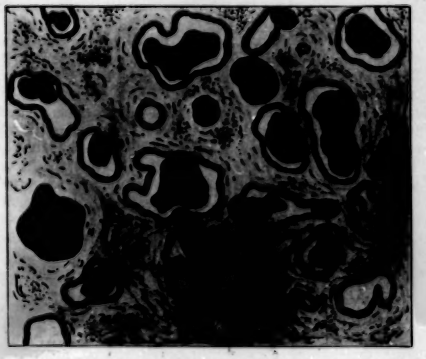

Fig. 7.—The section shows large glandular lumina, filled with colloid material. There is some hyperplasia of the connective tissue.

ascertain before the operation the presence or absence of the thyroid. That point is perhaps the most important one of this entire paper. The accessory thyroid may be the only one that the patient has, and of course all know what the natural result would be if such a precious organ were removed. Out of 39 cases recorded, 5 cases have developed myxedema within a longer or shorter time after the operation. If one is able to ascertain that the thyroid is present, and if such tumors cause a great deal of inconvenience or discomfort to the patient, surgical treatment is not only admissible but

advisable. On the other hand, it must be borne in mind that the thyroid may be present, but on account of some pathologic condition of the organ the accessory thyroid begins to enlarge, which is frequently a physiologic compensation, and in these cases the removal of an accessory thyroid, regardless of the absence of the normal thyroid, is justified only when the tumor is sufficiently large to press down the epiglottis and cause symptoms of asphyxia. Even in such cases the surgeon should be conservative; that is, he should endeavor to remove only a part of the accessory thyroid.

SURGICAL TREATMENT.

Surgeons, assuming that they have to deal with a cyst, insert the trocar or aspirating needle; the former may become dangerous if used as a means of treatment; the latter is harmless for diagnostic purposes and useless as a means of treatment. Tincture of iodin, chlorid of zinc and other drugs have been injected in the tumor, but without good results, and the injections are not free from danger. The sublingual tumor can be extirpated either through the mouth or through a submental incision. In some cases, especially where the tumor is small and immediately under the mucosa of the tongue, it can be advantageously extirpated through the mouth. There is seldom any difficulty in enucleation; it can be accomplished with the scalpel or by blunt dissection. The hemorrhage that accompanies such a tumor may be alarming in aspect, but it can be controlled. General anesthesia is usually employed; cocain, however, has been used. If general anesthesia is employed, the mouth should be gagged, the head low and the tongue forcibly drawn forward. In several instances tracheotomy was resorted to in performing this operation.

SUPRAHYOIDAL OR SUBMENTAL ROUTE.

This is the route of election in all cases, and particularly if the tumor is large and protrudes beneath the chin. An incision is made from the symphysis menti down to the hyoid bone. The corresponding muscles are separated by retractors, and as soon as the tumor appears in the incision there is no difficulty of enucleating it either by the knife or the galvano-cautery. The presence of the thyroid in the normal position should be determined in every case before removing the sublingual growth, even though it necessitates a dissection of the neck.

RESULTS.

The prognosis is generally good if the normal thyroid is present. There is no death recorded after this operation.

Recurrence of the tumor has been noticed in 6 out of 39 cases. The most unpleasant experience recorded after extirpation of such tumors is the occurrnce of myxedema; this occurred five times in the 39 cases, s seen in the tables.

In closing, I wish to express my appreciation to Dr. Victor L. Schrager for collecting the literature of this subject.

Why a Country Doctor Should Dispense His Own Drugs.—You are certain to furnish a reliable article. You are certain that no "just as good" plays at cross purposes with you. You are certain that your formulas stay your own property. You get rid of refilling prescriptions without authority. You keep the privacy of your patient between yourself and him. You pocket a better fee, and your patient is better satisfied.—*Central States Medical Magazine.*

THE ALBUMOSURIA OF PHTHISIS.

A CLINICAL STUDY.*

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Some two years ago, while working up a series of urinalyses for the purpose of computing the prognostic value of Ehrlich's reaction in the tuberculous, my attention was directed to a large proportion of the specimens having a precipitate with the characteristics of an albumose. There was very little to be found in the literature concerning the significance of this adventitious content; to be more precise, many authorities denied that it portended anything. Hence, the investigation and conclusions here presented I believe to be original.

Albumosuria may be defined as the presence in the urine of a primary product of the digestion of a proteid, differing from albumin in not being coagulable by heat. The albumoses appearing in the urine have a wide nomenclature, which is of little clinical interest. Suffice it to state that it has been conclusively shown that such products are in no wise to be considered as peptones (in the sense of Kühne), which never appear in urine. The physiologists tell us that these bodies are excreted by the renal function when the intracellular disassimilation of proteids is perverted. With this and other theoretical observations I have little to do, as my purpose is to present a clinical deduction, which, if confirmed, should be of vast benefit, namely, the placing of the empiric therapeutic idea of rest on a rational basis.

The twenty-five cases studied during the first six months were patients presenting the ordinary evidences of tubercular invasion who were seeking amelioration through climato-therapy. In their symptoms they were fairly similar. The majority suffered from febrile disturbances, which varied only in degree. All such were subjected to the empirical idea of rest, and it was noticeable in these cases, as in many others preceding them, that some patients did not improve under rest, but did become better when allowed to exercise, such improvement being attributed to better elimination of the toxic products of the disease. But why? Fever denotes a dissolution of the body substances and increased absorption of fat and albumin. Exercise intensifies this; the reparative functions being below par, there is a continued absorption, not only of the tissues of the body, but of the proteins, the etiologic factors of more fever, and yet the experience above given is a common one.

Systematic urinalyses were undertaken and the following observations recorded. With a view to conciseness, these may be reviewed from a triple standpoint: First, those febrile patients giving a positive reaction whom I have designated albumosurics; second, febrile patients giving a negative reaction under rest and exercise designated non-albumosurics; third, non-febrile subjects giving a negative reaction despite the fact that overexertion, mental stress, hot baths, etc., cause a rise in temperature.

OBSERVATION 1.—A. B. C., male, aged 26, weight 145 pounds, normal weight 164 pounds, good family history, clinical and bacteriologic evidences of tubercular invasion of right superior lobe; morning temperature, 97 3/5° Fahrenheit; pulse, 80; slight chilliness at 11 a. m., afternoon rise varying from 101 3/5 to 102° Fahrenheit; pulse, 90 to 96; gradual loss of weight. Urinalysis, positive reaction to albumoses test.

* Read before the Colorado State Medical Society at its Annual Meeting, held in Colorado Springs, 1905.

Patient placed at rest on sleeping-out porch. Chill anticipated and usual disciplinary methods enforced. Temperature gradually declined to almost imperceptible afternoon rise. Albumoses disappeared some days later. Gain in weight. Patient allowed limited exercise without bad effect. After a week patient overstepped bounds, fever and albumosuria returned, with loss of weight as a resultant.

OBSERVATION 2.—J. K. L. is representative of the second class. Male, aged 22, weight 151, clinical and microscopic evidences of tubercular involvement of both apices; morning temperature, 98; pulse, 82; afternoon rise of 100 to 100 3/5; pulse, 88, which was persistent, though disciplinary rest treatment was enforced. Albumoses were at no time demonstrable in the urine.

During rest patient lost eight pounds in weight. Exercise, under supervision, was then permitted with the happiest results. At present time patient is playing golf each day, has gained fifteen pounds in weight, temperature is normal and pulse nearly so.

OBSERVATION 3.—X. Y. Z. is cited as a representative of class three. Male, aged 28, at one time tubercular fibrosed right apex. After fatiguing exercise, mental excitement, etc., there is an afternoon rise to 100. Test for albumoses negative.

In the 129 records at my disposal, of which the above serve as types, there is much of interest to be gleaned as to classification, but this I leave for more mature investigation. Briefly stated, it is evident that the albumosuric patients suffered from a rise of temperature, increased by exercise, which was febrile in character—contrariwise non-albumosurics presented a rise of temperature—which was not benefited by rest and in whom exercise under supervision was attended by the happiest results.

TESTS.

In all cases of albumosuria the amount of albumose that appears in the urine is relatively small, and as a rule can not be demonstrated by the biuret test when applied directly to the native urine; on the contrary, it is necessary to isolate the substances more or less definitely before deductions can be drawn as to its presence or absence.

Test.—Ten c.c. of urine are treated with 2 c.c. of a saturated salt solution in order to get rid of the common albumins, acidified with 5 drops of dilute acetic acid boiled and filtered while hot; coagulated albumins remain behind while albumoses go into the filtrate from which they separate on cooling. The filtrate should then give the biuret reaction, which is best brought about in the following manner:

The urine is heated with potassium or sodium hydrate solution and a 10 per cent. copper sulphate solution added, drop by drop. The positive reaction is a rose coloration.

If in a suspected specimen the reaction with the above test should become negative, it is often worth while to try the following method: 10 c.c. of urine are treated with 8 grammes of ammonium sulphate; the fluid is then boiled for a moment, placed in the centrifuge for one minute, and the sediment stirred with alcohol in an agate mortar. The alcohol is then poured off and the residue dissolved in a little water. This solution is boiled and filtered and the filtrate tested for the biuret reaction. By this method it is possible to demonstrate albumoses in a dilution of 1/5000.

708 North Tejon Street.

Thoroughness.—It is not good to be a bigot, and to give no credit for intelligence to our opponents, either in politics or in religion; but there is something worse than bigotry, and that is instability—to have no opinion except what is pumped into you by your neighbor, or to have one opinion to-day and another to-morrow, or never to rise above opinion, and to reach conviction. This . . . indecision may be due to a certain quality of mind which never can come to a conclusion, and never can take a side strongly, but the chances are that want of conviction means intellectual indolence. . . . Let us believe something with all our might, for the day will come when God will give to the honest thinker more light.—Ian Maclaren.

THE ROENTGEN RAYS IN DENTISTRY.*

MIHRAN K. KASSABIAN, M.D.

Director of the Roentgen Ray Laboratory of the Philadelphia Hospital.

PHILADELPHIA.

The discovery of the Roentgen rays in 1895 marked a new epoch in the domain of dental surgery. The first skiagraph of the teeth was presented to the Society of Physics of Frankfurt-on-the-Main, in February, 1896, by Prof. Koenig. In April, 1896, at the Congress of Erlangen, Walkhoff demonstrated many skiagraphs of the teeth in the living subject. Dr. W. J. Morton wrote an article which appeared in the *Dental Cosmos*, June 1896, on "The X-rays and Their Application in Dentistry."

Since then, many dentists and physicians in this country and abroad have endeavored to bring dental skiagraphy to a greater degree of perfection; yet the field is wide and requires many modifications and improvements.

TECHNIC.

Although the technic and principles of dental skiagraphy do not differ greatly from ordinary skiagraphy, I wish to describe it very briefly for the benefit of those who are interested, and are desirous of entering on this special subject.

The apparatus that I have recommended for the production of the *x*-rays is a small Ruhmkorff coil, 6-9 inch spark producing size, energized by a storage battery, or a 110 volt, placed on a shelf, etc. The Crookes tube should have such a vacuum so as to produce rays of good penetration. The direction of the rays in relation to the teeth and jaw is most important; the position of the tube and part must be so arranged as to skiagraph the part without superimposition of the different structures.

TECHNIC OF DENTAL SKIAGRAPHY.

Fluoroscopic examinations in dental work do not yield satisfactory results. The two methods of skiagraphing dental conditions at present most commonly employed are: A. The intraoral. B. The extraoral or buccal.

A. The Intraoral Method.—This consists in inserting a small piece of film (light and moisture proof) over the gum tissue where trouble is suspected, and in placing the tube in such a position that the rays will fall perpendicularly on the teeth and film. A small sensitive plate, being inflexible, cannot be made to adapt itself to the curvature of the part.

Price, of Cleveland, encloses the sensitive film in unvulcanized black dental rubber, using a sheet of sensitive bromid paper to protect the emulsion. Rollin, of Boston, encases the film in an aluminum cover. Ordinary kodak films can not be used for this purpose.

Personally, I prefer a specially prepared thick, double coated film. I cut it to the size required for the special condition, and enclose it in a layer of black paper, after which the paper is so folded as snugly to enclose the film; the whole is placed in a yellow envelope just large enough to accommodate the size of the paper and film; the smooth side corresponds to the sensitive side of the film.

Place the patient preferably in the dental chair and adjust the tube. In the latter procedure, see that rays

* Read in the Section on Stomatology of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

fall perpendicularly to the vertical apex of the teeth. If the adjustment of the tube be faulty the shadows of the teeth will be distorted.

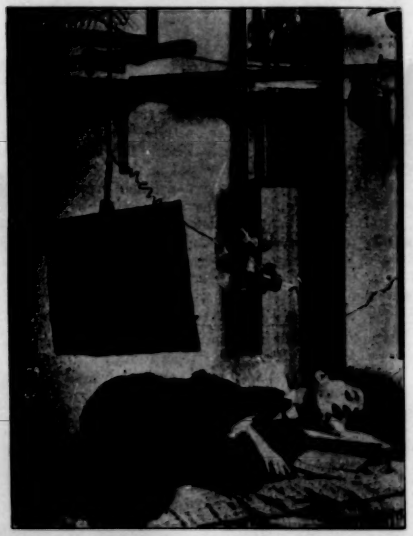
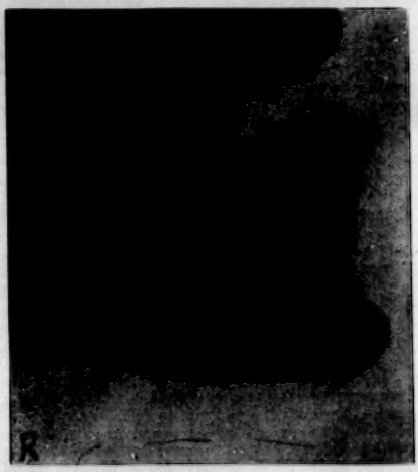


Fig. 1.—The extra-oral or buccal method, showing the positions of the patient and tube and the lead screen to protect the operator.

rubber bands. It must always be remembered that a skiagraph of the superior maxillary bone is less satisfactory than of the inferior maxillary, as the film cannot be placed in a line parallel with the teeth. Two films (superimposed) can be taken at one exposure.

Fig. 2.—Unerupted upper right cuspid (Dr. Dray's case).



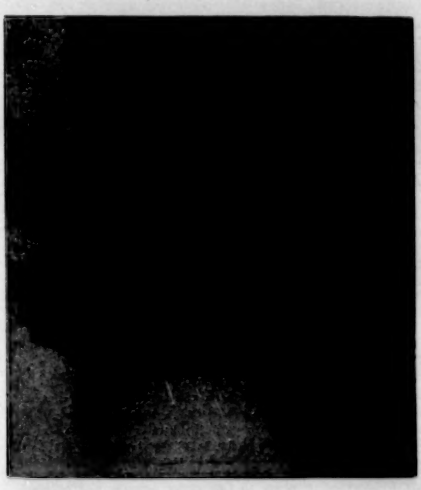


Fig. 4.—Unerupted right and left second bicuspid of lower jaw (Drs. Cryer and Smith of Baltimore).

Care should be taken to place the film against the hard palate in order to include in the skiagraph the roots of the teeth. Before its introduction into the mouth, the enveloped film should be reinforced by two

As only one or two teeth can be taken at one time, the film should be pressed against the affected part; the exposure varying from two to ten seconds. The advantage of this method is to be found in the sharper

definitions on the negative, but it must be remembered that only a small area can be taken.

B. The Extraoral or Buccal Method.—This requires a plate 8x10 against the jaw at the suspected region.

A block of wood is wedged between the widely extended jaws, and the patient is directed to lie on the affected side and to incline the head and neck to an angle of about 45°. The tube is now placed over the opposite shoulder, the latter being protected by a sheet of lead (the tube being placed very close to the shoulder). The rays are sent obliquely at a distance of 20 inches from the face to avoid overlapping of the shadows of the jaws. The method produces a picture of greater area, and is intended for bicuspids and molars of both jaws. Exposure varies from one to three minutes (Fig. 1).

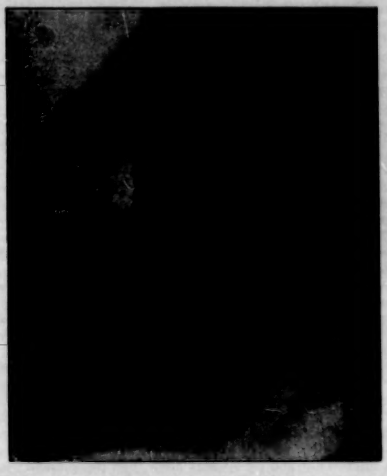


Fig. 3.—Unerupted upper left cuspid (Dr. M. H. Cryer's case).

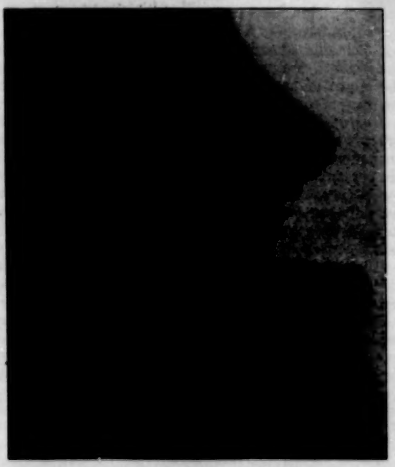


Fig. 5.—Unerupted third molars on both sides of lower jaw and one on the upper right side (Dr. M. H. Cryer's case).

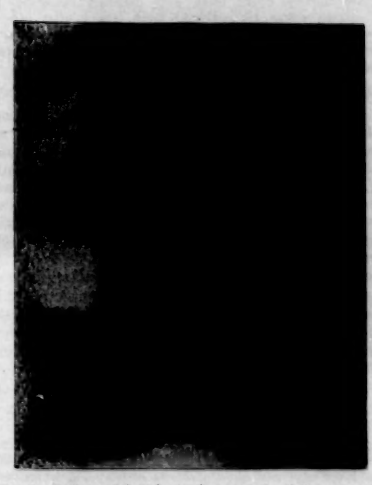


Fig. 6.—Pericemental and alveolar necrosis of the upper third molar on which was bridgework (Dr. W. Freeman's case).

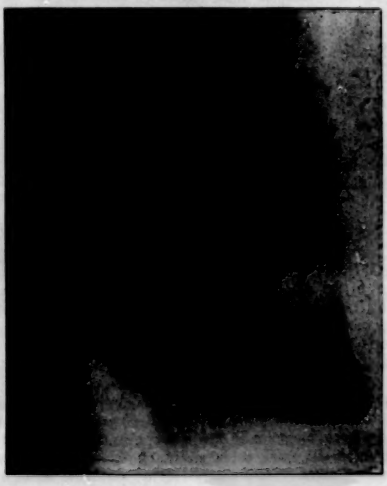


Fig. 7.—Dr. Jace's case. Broken root of the right upper canine.

THE CLINICAL APPLICATION.

This method will assist in studying the anatomy and physiology of the oral cavity, viz., the eruption and evolution of the teeth.

Anatomy.—The sinuses, dental canals and foramina, antrum of Highmore and many other conditions in normal or diseased states, can be studied most thoroughly.

The structures of the teeth can be studied; namely, enamel and dentine give different shadows, the former being a denser shadow than the latter. The pulp, dental canals, etc., are likewise visible.

Evolution of the Teeth.—The evolution can be studied from the second month of the embryonic life, and each month thereafter. Calcification, which begins at the crown of the tooth, can be studied in its different stages.

Unerupted and Retained Teeth.—An important condition coming under the dentist's care is the retention or non-eruption of a permanent tooth owing to the temporary tooth remaining in the alveolar socket beyond the age considered normal. If the skiagram reveals the unerupted tooth to be of normal shape, and so located as to permit of its eruption, the indication is to remove the temporary tooth.

Cases of odontalgia frequently reported are undoubtedly due to an unerupted tooth; in such cases the etiologic factor may be revealed by the *x*-rays.

The following are a few of the cases in which *x*-rays were utilized for this condition.

CASE 1.—Unerupted upper cuspid of the jaw; referred to me by Dr. Dray in 1900; patient a medical student complaining of facial neuralgia, etc. (Fig. 2.)

CASE 2.—Unerupted cuspid of upper jaw referred to me by Dr. Cryer. Patient had a swelling under the eye; he suffered pain; had eye symptoms, headache, etc. (Fig. 3.)

CASE 3.—Unerupted second bicuspid of the inferior maxillary bone in a girl of 12, on the right and left side, referred to me by Drs. Cryer and Smith of Baltimore. (Fig. 4.)

CASE 4.—Unerupted third molars on both sides of lower jaw, and one on the upper right side, referred to me by Dr. M. H. Cryer. (Fig. 5.)

Foreign bodies and broken instruments, defective root fillings, whether properly and completely filled or not. Fracture, etc., and metal splints can be studied.

Ankylosis of the inferior maxillary articulation, tempero-maxillary, whether it is bony or false, can be studied both fluoroscopically and skiagraphically. This ankylosis may be true or false, partial or complete, depending on the cause; both fluoroscopic and skiagraphic examination is necessary. The extraoral or buccal method should be employed. In early stages, the articular and cartilaginous joint presents an irregular surface, and in time ankylosis occurs, as when following a fracture involving the joint. The latter may be seen to be wholly obliterated, absence of movement being manifested clinically in false ankylosis. The joint is seen to be eroded, the fibrous adhesions not showing unless they have become partially infiltrated with inorganic salts. False ankylosis is often due to rheumatism or to syphilitic diathesis.

Dead pulp in a tooth is indicated by a break in the continuity of the pericemental membrane at the apex of the root, by more or less absorption of the adjacent osseous tissue, and occasionally of the roots in long standing cases. In the majority of instances, such an abscess is due to imperfect treatment, but in many cases the canal of the root is so narrow and irregular as to make it almost impossible to fill the canal or cavity to the apex.

When a case presents symptoms of a pericemental inflammation, and the history is uncertain, the most rational procedure is first to skiagraph the field, thus ascertaining the exact location and extent of the lesions, and often its cause.

CASE 5.—Dr. P., patient of Dr. W. Freeman, suffered intense neuralgia, with painful reflexes from the ear, nose and eye. He had a bridge on the third upper molar. The skiagraph showed a pericemental and alveolar necrosis; tooth was removed and alveolar process was cleaned, etc. (Fig. 6.)

CASE 6.—This was a patient of Dr. Cryer. The angle of the inferior maxillary bone was swollen and painful. A skiagram was taken while the probe was inserted. It showed a necrotic condition of the angle of the lower jaw, and the probe was inserted up in the canal. There was found an unsuspected necrosis. The patient was operated on and several months after the skiagram showed the regeneration of the bone.

CASE 7.—Dr. Gaylord's case, Mr. E., aged 65.

History.—Three years ago the third molar was removed, and an artificial plate was made. Three months after swelling around the first cuspid was noticed.

Treatment and Result.—On account of his age, the surgeons thought it malignant, and so operated and curetted the (abscess) bone, as shown in the skiagram.

After the operation (three years ago), there was a sinus, which gave him much discomfort and pain; every remedy and surgical treatment proved unavailing. A skiagram showed a broken root on the plate, and on the film it showed the root was 2 mm. under the gum tissue. The root could not be felt. Dr. Gaylord removed it, and with an injecting solution showed the sinus to communicate with the root of the tooth. The patient recovered in four weeks.

CASE 8.—A woman, aged 65, was referred to me by Dr. Jaco. The patient had suffered for fifteen years from neuralgia of the right side of the face. Dr. W. W. Keen removed the infraorbital and infradental nerve, but the neuralgic pain still persisted. A skiagraph revealed a small broken root of the right upper canine tooth. Prior to a careful study of the case thirteen sound teeth were uselessly extracted. Before making plates for artificial teeth, the dentist referred the case to me, to inquire if the rays would discover a retained root, which would cause a repetition of the former trouble. (Fig. 7.)

ABSCESS OF ANTRUM OF HIGHMORE AND FRONTAL SINUS.

A skiagram of a lateral view of the face and suspected side next to the plate will always show an abscess of the antrum, but the better way, and I always prefer it, is to have a skiagram of the occipito-frontal view, viz., the patient puts his head over the large plate and rays come from the occiput. This view will show the affected side, which can be compared with the normal side. Frontal sinuses can be shown by lateral view.

Recently I examined a retired physician, the case being referred to me by Dr. J. Solis-Cohen. A skiagram showed pus in the frontal sinus; two skiagrams were made, one before and one after evacuation. I have had the privilege of studying dental conditions and the anatomy of the face with Prof. M. H. Cryer, at the Philadelphia Hospital, whose dry specimens and cases offered most thorough study in the exposition of the methods of stereoskiagraphy.

Professional Ethics.—A practitioner of medicine, to the best of his knowledge and ability, should strictly follow the code of etiquette accepted by the profession, for he may be assured that it has its root in a principle which works for the general good, while for his real success nothing in the end will prove more helpful than a faithful adherence to the spirit of the rule, "Do as you would be done by."—*British Medical Journal.*

BEHRING'S NEW TUBERCULOSIS REMEDY.

ARNOLD C. KLEBS, M.D.
CHICAGO.

"I can assure you that rarely in my life have I felt greater joy than during those days, weeks and months when I recognized with ever-growing clearness the essential causal relation between inoculation and immunity." These enthusiastic words were uttered by von Behring at the closing session of the International Congress of Tuberculosis October 7, of this year, before an assembly of lay and medical members and their guests. They served as an introduction to the revelation of this remedy of tuberculosis, of which we, who were in Paris at the time, had seen the most wonderful accounts on the preceding days in the sensational press of the French metropolis. It seems to be the specialty of international congresses to bring forth some sensational revelations. In 1890 Koch's announcement of his tuberculin and later in 1901 of his unbelief in the identity of the human and bovine type of the tubercle bacillus are still well remembered. The sensational element in this, as it was the case in the others, will exert a regrettable influence on the public and especially on its good opinion of things medical.

Anything uttered by the inventor of diphtheria antitoxin by a scientist of the first rank, however, must command attention, no matter how regrettable its mode of announcement may seem. The original text of Behring's address was translated by Letulle and Fuster. It may be presumed that this translation which was read at the congress in Behring's presence, was authorized by him. All the various English translations seem to have been made from this French translation. The only German text available so far is the one given in the *Münchener Medicinische Wochenschrift*, No. 43. There are some more or less important differences in the wording and actual text of these various articles. In quoting Behring I shall hold myself principally to the German text.

First of all, it may be suitable to examine what Behring promises to accomplish with his "new tuberculosis remedy." He says: "My method is destined, I believe, to protect men threatened with phthisis, against the damaging consequences of the infection." Ambiguous as these words are, we must take them to signify that the remedy is not expected to cure tuberculosis in all its stages, but to prevent in those infected the development of destructive processes, i. e., phthisis. Exactly where the efficiency of the remedy begins and ends is not indicated in the address.

This accepted, we may proceed to analyze his theory of a curative principle, the existence of which he says he has recognized with certainty during the last two years and which is entirely different from the antitoxic one. Here, again, is the same ambiguity of expression. He says "this new curative principle plays the essential rôle in the immunizing action of his 'bovo-vaccine.'" This latter method consists in the inoculation of cattle with human or other attenuated varieties of the tubercle bacillus in increasing doses until an immunity not only against these but also highly virulent bovine bacilli is obtained. The curative principle, he says, becomes active by the impregnation of the living body cells with a well-defined constituent of the tubercle bacillus. He has isolated this substance and calls it TC, as E. Klebs has done for long years to indicate the active curative principle contained in the cultures. Behring thinks his TC has formative, assimilating, absorbing qualities and thus constitutes the life principle of the bacillus. That Behring thinks he has been able to isolate the "life principle" of the bacillus *in vitro*, must be taken as the most direct indication of his intention as I will show later. This TC has remarkable qualities; he finds it has fermentative catalytic powers, even within the impregnated animal cells. It is responsible for the hyper-sensibility to tuberculin and the curative cellular reaction against the virus. The healing action is exerted through a transformation of this TC within the cell into some hypothetical derivative, which Behring calls TX, because he does not know yet whether it is a ponderable body or not. A cellular immunity quite different from the antitoxic, humoral immunity is thus produced, and Behring says that he has arrived at the clear conception of this through his intimate acquaintance with Metchnikoff's work on phagocytosis. Experimental proofs for this view he does not give us, however. He promises them in a new book which is to appear soon.

The method of preparation of his remedy is then sketched, and the fact that Behring and his school have made in the Behring works at Marburg the most exhaustive chemical and experimental investigations of the various components of the tubercle bacillus renders this part of the address of particular interest. These works, which were established at the expense of a well-known chemical firm, are the most perfect to be found anywhere and offer every opportunity for these studies. Several hundred thousand liters of bouillon media have been used there for the growth and subsequent study of the tubercle bacillus only. One who sees the scanty cultures in ordinary laboratories would be astonished to find here crops of tubercle bacilli weighing pounds. Apart from the laboratory facilities, there is offered every opportunity for experimentation on large and small animals also on a scale not to be found elsewhere. A staff of very able assistants working under one of the foremost bacteriologists of the age, and utilizing these facilities must produce results which of necessity compel attention. In speaking of the method of preparation of his TC, Behring considers three groups of substances which hinder its therapeutic action. We may note here that Behring, Römer and Ruppel have previously isolated and studied twenty-five separate substances derived from the bacillus by various methods. The three groups Behring refers to are: (1) One substance soluble in water and corresponding to Koch's tuberculin. By certain procedures he was able to increase its toxicity so that 1 gram of the substance is more powerful than 1 liter of the old tuberculin. (2) A proteid substance soluble only in neutral salts (NaCl). It is toxic like tuberculin. (3) A group of non-toxic substances soluble in alcohol, ether, chloroform, etc. The body of the bacillus, freed from these three groups of substances, Behring calls the rest-bacillus. He reduces it probably through grinding to an amorphous mass, and this is, although he does not state it directly, the TC. Introduced into the subcutaneous tissue of certain animals which are not immune to tuberculosis, he finds it is taken up by the cells which originate from the lymphatic germ centers. These cells transform the TC and become oxyphile and eosinophile simultaneously with the manifestation of bodily immunity. Behring considers it of fundamental importance for the comprehension of the therapeutic TC action, that although it is not itself capable of reproduction, tubercles can be produced by it, tubercles which never caseify or soften, but heal spontaneously without leaving traces (Laennec's granulations tuberculeuses).

These are about all the facts given in Behring's address. As to the method of applying his remedy (which he considers capable of improvement), no direct information is given. He only says that it can perhaps be modified with advantage.

Therefore, in order to get a conception of his theory of the new curative principle, of the nature of his remedy and its application, we must resort to speculation, and this is possible only with a due consideration of Behring's other recent work on immunization. Although Behring's language in his address is vague and ambiguous, there are certain essential principles which can not be misinterpreted. First of all among these is the fact that Behring finds the curative principle pre-existent within the body of the tubercle bacillus. This means an entirely new departure and radical change in Behring's opinion. In his introduction[1] to the work on cattle immunization against tuberculosis, we find this very positive statement: "We must for once and ever discard the teaching of the co-existence of curative and damaging agents within an infective substance (Bouchard's *matières vaccinantes* and *matieres nuisibles*)." In whatever way he may explain the action of his TC, we can consider it nothing else but a "matière vaccinante" extracted from the bacillary body.

He has been able to produce immunity against tuberculosis by the introduction into the circulation of living and self-producing tubercle-bacilli, but he has the "most serious objections" to the application of such a method in man. In TC he has found a substance which is not living and self-reproducing, but nevertheless "can be made far superior to the living bacillus in regard to its protective and curative action." There is certainly nothing very new in this discovery, and should it prove to be true it would be a brilliant vindication of E. Klebs' investigations which allowed him to adhere persistently to his theory of a curative element pre-existent in the tuberculous virus. Even before 1894, when this author published *in extenso* the results of his biochemical investigations of the tubercle bacillus, he defended his theory of the presence of a curative principle in the virus, which he then called, as Behring does now, TC. He has through all these years substantiated his theory by numerous tests on animals and in men. E. Klebs sees the mechanism of the immunizing process by his TC in its bactericidal action, and it can not be stated clearly from the works of Behring, how much he differs from him in this respect.

Behring speaks of a cellular immunity altogether different from the humoral antitoxic immunity, but the mechanism of this is by no means clear. In his work with Much,[2] the relations of cell life to certain (anthrax) infective organisms were studied with very interesting results. The conclusions then drawn were that not only cells suspended in body fluids are carriers of antibodies, but also fixed tissue cells can carry and produce them. Also that various infective substances show elective qualities for certain definite cell groups. In the case of tuberculosis, as we have seen, Behring has paid special attention to the germinative cell centers of lymphatic tissue. He has evidently studied these cells by similar methods, as was some time ago done by Donath and Landsteiner. There he came to the following hypothetical conclusions: The cells, leucocytes, endo- and epithelial cells in this case, during a course of a subacute or chronic infective process become victim to "oxyphile" degeneration (the less virulent the infection the more the oxyphilia, intense coloration by eosin), they are finally reduced to a colloidal solution which gives to the blood fluid the agglutinating properties against that variety of bacteria which has produced the infection. We have seen that Behring in his address says that the metamorphosis of the TC within the cells is accompanied by their oxyphile and eosinophile degeneration, and that this marks the manifestation of immunity. He does not state there what further changes take place in the cells and what part they play in the immunizing process. In the above-cited case (anthrax) he suspected that the modified cell substance acted through agglutination. It is very doubtful if this theory is applicable in the case of tuberculosis. But there is no doubt that these processes merit the great attention which they have received in very recent times. We know that Wright and Douglas have found in the blood plasma certain substances which they call opsonins. These substances, by becoming attached to the bacteria, make them (opsono: prepare as food) susceptible to phagocytosis. Whatever the mechanism of immunization in Behring's method may be, it appears very probable from the foregoing that he imagines a more or less direct bactericidal action to take place.

These considerations may throw some light on one of the darkest passages of Behring's address. It is: "I have transformed active into passive immunization." In Ehrlich's terminology we know that "active immunization" pre-supposes cell activity for the production of antibodies; in "passive immunization" the latter are artificially introduced into the body through a foreign serum rich in receptors. It may be that the "passive action" of the cell substance, as we have seen above, has given rise to this expression of Behring's. It certainly does not seem probable that Behring's method of application is based on what Ehrlich calls passive immunization. Behring, it is known, has substituted for Ehrlich's terms active and passive, "isopathic" and "antitoxic."

Since Behring expressly states that the new, by him discovered, curative principle plays the essential rôle in his immunization method of cattle, it is most probable that this latter has been followed by him here with some modification. We have seen that he objects to introducing into the human organism living tubercle bacilli. But since he has found that he can make these latter perfectly harmless, by extracting from them the TC, a substance of much greater protective and curative powers and which, he emphasizes, contains the life principle of the bacillus, we are forced therefrom to conclude that his method consists essentially, not as in cattle immunization in the introduction of living tubercle bacilli, but in that of the life principle, the TC. With this theory of the bacillary life principle he covers up another change of opinion, because only this year we find him saying: "My bovo-vaccine consists of living germs. If it is heated so that the germs are killed it ceases to be a vaccine. It may contain a poison, but it is not any more self-reproducing and the poison is not capable of exerting a protective action."[3]

The hypothesis that Behring intends to use the bacillary product TC directly for immunization purposes, I believe, is strengthened by his most recent contribution to the subject in a letter to the November number of the *Revue Internationale de la Tuberculose*. He speaks there of his intention to use the unstable remedy TX in man, while the mother substance, the TC, which is

1. "Beiträge," No. 5, p. 6.
2. Deutsch. Med. Woch., 1904, No. 1.
3. "Beiträge," No. 10, p. 2.

more preservable, is to be used in animals, but he adds: "It is not impossible that later TC will be employed advantageously in man." He says, also, that he has extracted the TX from the animal body and compares it to an explosive substance, probably indicating thereby its instability. From what has been said before it seems quite likely that he has used for extracting purposes the lymphatic tissue, possibly the bone-marrow of cattle. The fact, however, of his extracting the TX for experimental purposes does not at all detract from the significant fact expressed by him that he thinks it possible that ultimately the TC can be used directly for curative purposes.

With a knowledge of Behring's ideas of cattle immunization we are allowed to presume that in human immunization with TC or TX he will introduce this substan e by the same way. He has chosen the quickest and shortest routes to the points of attack of the tubercle virus, which he believes to be the leucocytes and the non-striated muscle-fibres, i. e., through the blood-current. He finds by this method the elective attraction between polynuclear leucocytes and the tubercle bacilli brought about very rapidly and especially in animals which previously have been under the influence of the tubercle virus. We see here again how much importance he ascribes to the cellular conditions.

The results of recent clinical studies of leucocytosis and phagocytosis have a direct bearing on these questions. Arneth's investigations[4] of series of neutrophile blood pictures, made on a very extensive scale, have allowed him to come to certain definite conclusions in regard to tuberculosis immunity. He is led to believe that the injected quantities of toxins (tuberculin in this case) according to their dose destroy a larger or smaller quantity of neutrophile leucocytes or what he considers the same, that for the production of antibodies a corresponding number of cells is needed and used up. To replace the loss created by this increased consumption of cells a more or less stormy production of cells (leucocytosis) follows. This increase of functional fitness is shown by an ever-increasing production of antibodies which with the consumption of the cells enter the blood in corresponding quantities, thus enabling the organism to overcome increasing doses of toxins without reaction, i. e., to become immune. This seems to be supporting Behring's theory of a cellular or histogenetic immunity, or better, it revives the interest in Metchnikoff's theory of phagocytosis. Metchnikoff has persistently adhered to the fact demonstrated by him, of a phagocytic derivation of antibodies. In this respect the careful studies of phagocytosis inaugurated by the Belgian investigators, Denys and Leclef, will also have to receive renewed attention.

There is, however, a large group of careful investigators who adhere to the humorigenic origin of the antibodies, whether they be antitoxins, lysins, agglutinins, precipitins or opsonins. The results of the recent experiments of Wright and Douglas, which were confirmed by Bulloch and Atkin, Hektoen and Ruediger and others, are certainly more in favor of the humorigenic theory of immunization, and the practical results of the "vaccination" method based thereon can perhaps be regarded as further supporting it.

We have seen that Behring considers it of importance in his method of cattle immunization that the attenuated virus is brought rapidly to those preferred points of attack of the virus, and that he had to utilize the blood current for the purpose. Whether he believes this sufficient for curative purposes in man must remain problematical until we hear more from him in this respect. Loewenstein's very recent studies[5] of experimental iris tuberculosis give suggestions in this direction, which to some extent have been already elaborated by Koch and his school. He finds that purely local infections do not bring about a formation of agglutinins, and from that he concludes that neither acute local or chronic infections (the latter being always local) can bring about an immunity, which is so easily produced in acute general infections. To treat chronic infections successfully he thinks it necessary that "other organs than those especially sensitive to the infection must be forced to absorb the specific infective bodies."

Considering once more Behring's announcement in the light of his own and other experimental studies, we are allowed to conclude that he has entered on a new line of work and that his further reports will merit great attention. On the whole, it seems that his method is based on principles, elaborated before him by others, especially Metchnikoff and E. Klebs. How much ultimately suffering mankind is to profit can not be predicted, nor can Behring's expressed, though carefully and ambiguously worded expectations, mean anything but a plausible, by him yet unproved hypothesis of a curative principle, applicable in human tuberculosis.

4. Leube's Clinic.

5. Moeller's laboratory at Beirig.

Special Article

THE PHARMACOPEIA AND PHYSICIANS.

CHAPTER I.

INTRODUCTION.

The Pharmacopeia of the United States of America has been the generally accepted authority and the professed guide of American medical men, in matters therapeutic and pharmaceutic, for over eighty-five years. Since the publication of the first edition, in 1820, the book has undergone eight decennial revisions and to-day it is universally accepted as being the peer of authoritative books of its kind, for its scientific accuracy as well as for the general excellence of the descriptions and directions that it contains.

This recognized superiority of the Pharmacopeia of the United States of America, in its own particular field, and its generally accepted authority, as a guide, in all matters relating to the strength and purity of the medicinal articles enumerated in its pages, is all the more remarkable in that during its long and varied career it has never been granted a general recognition by statutory enactment. This lack of legal recognition has undoubtedly been a disadvantage to the book in so far, that, in the past two decades at least, the contents and even the very existence of such an authoritative book has been largely lost sight of by American physicians, and official remedies, to a very marked degree, have been eclipsed or overshadowed by the innumerable patented and proprietary remedies that are constantly brought to the attention of medical men in the advertising material with which their offices are regularly deluged.

With a view of bringing the Pharmacopeia itself, its scope and its contents, and particularly the extensiveness as well as the comprehensiveness of the included material, more prominently before the medical profession, it is proposed to present, in a series of articles, a collection of facts and suggestions bearing on the number and the variety of therapeutic indications that may be fully met with official drugs and preparations.

It is also proposed to call attention to the unreasonable claims and the extraordinary statements that are frequently

made in connection with some of the arbitrary combinations of drugs that are offered as proprietary remedies or "patent" medicines, and to compare the probable limitations of these self-styled panaceas with the possible application and the varied uses of the more simple and, therefore, more generally reliable, official remedies, the composition as well as the purity of which can readily be determined by well known and easily applied methods.

That even the most recent, the eighth decennial, revision of the Pharmacopeia can not be said to be free from possible errors of commission and omission must be admitted, but many of the shortcomings that are usually attributed to the book are really due to the general lack of interest that has been displayed by physicians; and many, if not all, of these shortcomings should be corrected in future revisions, if members of the medical profession would but make their needs and wishes known at the proper time and place.

It has been repeatedly asserted that the Pharmacopeia of the United States, as such, is designed primarily for pharmacists and for the manufacturers of pharmaceutical galenicals, and that it contains little or nothing of direct interest to the physician. One of the prime objects of this series of articles will be to demonstrate that this assertion embodies only a half truth and that the present edition of our national Pharmacopeia really contains much that does, or at least should, interest every medical practitioner in the land.

In this connection it should also be remembered that the technical descriptions and tests for which the average physician may think he has little or no use, are in reality essentially important in securing for him, and through him for his patients, remedies that are not only reliable, but which are also uniformly active.

As an introductory to this proposed series of articles, it may be permissible to give a brief review of the history of our national Pharmacopeia and incidentally to call attention to at least some of the various causes that have led up to the present widespread use of proprietary medicines and nostrums. To do this it will be necessary to call attention to some of the shortcomings of our Pharmacopeia, from a medical point of view, and to refer to at least several of the attempts that have been made to correct these shortcomings by offering either a substitute book or by introducing more or less radical changes in the book itself.

During the colonial period, and even during the first three decades of the independence of the United States, the pharmacopeias, or the dispensatories that were based on the pharmacopeias of Edinburgh, London and Dublin, in the order given, were practically the only authoritative books on materia medica known in this country.

A rather notable exception is to be found in the small pamphlet, of 32 duodecimo pages, containing 100 titles, that was published as "A Pharmacopeia for the use of the Military Hospital belonging to the Army of the United States," during the Revolutionary period. The first edition of this little book was published in 1778 and a second edition, bearing the name of Dr. William Brown as editor, was printed in 1781.

The earliest known attempt to produce a distinctly representative American Pharmacopeia was made by the members of the College of Physicians, who, June 1, 1788, appointed a committee of eight members to form a pharmacopeia for the use of the college. The members of this committee, being desirous "that the work should be accommodated to the practice of medicine throughout the United States," continued the preliminary work and correspondence for over ten years, but finally allowed the project to languish.

Recognizing the need for a more distinctly American book, Dr. J. Redman Coxe, of the University of Pennsylvania, in 1806, published what was practically a reprint of Duncan's Edinburgh Dispensatory, under the title of "The American Dispensatory." The next American publication, in point of time, was the Pharmacopeia of the Massachusetts Medical Society, published in 1808, and this was followed in 1810 by Dr. James Thacher's American New Dispensatory, also published in Boston. These books supplied two of the then existing medical centers, and the territory more or less dependent on them, with reference books on materia medica, of American origin. The territory more directly dependent on New York City was in a measure supplied by the publication of "The Pharmacopeia of the New York Hospital," in 1816, and the subsequent publication, in 1818, of an American reprint of the Edinburgh New Dispensatory. This rapid multiplication of authoritative books appears to have been unsatisfactory and no doubt led to the revival of the project, proposed many years before, of forming a truly national pharmacopeia.

American physicians, and particularly the leaders in American medicine, have contributed so little to the evolution or advancement of the Pharmacopeia of the United States of America, during recent decades, that, no doubt, it will be interesting, if not surprising, to many, to be reminded of the fact that the inception as well as the inauguration of the Pharmacopeia is to be accredited to the leading minds in the medical profession of this country, eighty or more years ago. It was at a meeting of the New York County Medical Society, in January, 1817, that Lyman Spalding suggested the first practicable plan for securing a national pharmacopeia. At the annual meeting of the Medical Society of the State of New York, held at Albany, in February, 1817, the same plan was discussed and a committee was appointed to consider the necessary details and to report at the next annual meeting. The report of this committee being in favor of the proposed plan, the society, in 1818, appointed delegates to meet in district convention, for the purpose of forming a pharmacopeia. Of the members of the New York State Medical Society who took an active part in forming this first national pharmacopeia it may be well to mention the names of Lyman Spalding, Samuel L. Mitchill, David Hosack, Valentine Mott, T. Romeyn Beck, Wright Post and Alexander H. Stevens. Other members of the profession were hardly less enthusiastic. In Boston the proposed plan received the earnest support of John C. Warren, Jacob Bigelow, James Thacher and George C. Shattuck. In New Haven it was endorsed by Eli Ives, William Tully and Nathan Smith; in Baltimore by Elisha DeButts, Samuel Baker and Nathaniel Potter, while in Philadelphia, Thomas T. Hewson, Samuel P. Griffiths, Thomas C. James, Edwin A. Atlee and Joseph Parrish, all of them active and influential members of the College of Physicians, gave the plan their unqualified support and endorsement.

On Jan. 1, 1820, the first General Medical Convention was convened at the Capitol, in the City of Washington, for the purpose of preparing and publishing a national pharmacopeia. The convention was organized by electing Samuel L. Mitchill, New York, president, and Thomas T. Hewson, Philadelphia, secretary. The necessary details connected with the preparing, publishing and editing of the proposed pharmacopeia were entrusted to a committee composed of Drs. Lyman Spalding, Thomas T. Hewson, Eli Ives, Elisha DeButts and Jacob Bigelow. The copyright of "The Pharmacopeia of the United States of America" was subsequently sold to Charles Ewer, of Boston, "for a large sum" and the book was finally published under date of "Dec., 1820."

This completed pharmacopeia, although prepared and edited by a committee of the most prominent medical men of the day, and printed in Latin, as well as in English, was soon found to be "in its nature too circumscribed and technical" for the use of physicians.

To overcome this necessarily objectionable feature and to popularize the book and its contents with medical practitioners, Dr. Jacob Bigelow, a well-known medical writer and one of the editors of this first national pharmacopeia, in 1822, published what he was pleased to term "A Treatise on the Materia Medica, Intended as a Sequel to the Pharmacopeia of the United States, Being an Account of the Origin, Qualities and Medical Uses of the Articles and Compounds which Constitute that Work, with Their Modes of Prescription and Administration." This book, practically a pharmacopeia for physicians, appears to have met with considerable popularity, and the well-worn pages of the still existing copies of the book certainly appear to bear evidence to the fact that they were frequently consulted.

That a pharmacopeia, consisting largely of a simple enumeration of drugs with detailed directions for the several medicinal preparations, could not be expected to appeal to the

medical profession, and that, unless such a book was well known to the individual members of that profession, it would have little or no reasonable excuse for its existence, appears to have been clearly appreciated by the members of the medical convention that met in the city of New York in January, 1830, for the purpose of revising the pharmacopeia.

The members of this convention decided to, and subsequently did, introduce several really novel features into this first revision that are only now, three-quarters of a century after the publication of the book, being revived and discussed. In addition to having short descriptions of the physical properties of drugs, both whole and powdered, this Pharmacopeia also included doses, and, what is even more, also included short, suggestive remarks on the "Medicinal Operations" or therapeutic properties of the several drugs that were included in the text.

For some unknown, certainly unforeseen, reason there appears to have been a misunderstanding in regard to the method of electing delegates to attend the General Medical Convention, and at least a portion of the delegates from the Middle States did not attend the convention in New York, but decided to hold a convention of their own in the city of Washington. As a direct outcome of this opposition convention we have another, "first" revision of the national Pharmacopeia, published in Philadelphia in 1831.

This 1830, Philadelphia revision of the national Pharmacopeia, as it is generally known, was continued along practically the same lines as the original pharmacopeia published in Boston in 1820 and did not appear to meet with the use and sale among physicians that its authors might reasonably have expected or desired.

To popularize this edition of the pharmacopeia, and also to furnish American medical practitioners with a convenient handbook on therapeutics, two of the younger members of the committee on revision, Drs. George B. Wood and Franklin Bache, decided to prepare and to publish a commentary on the national Pharmacopeia. This book, known as the "Dispensatory of the United States of America," first published in 1833, met with instantaneous and really phenomenal success. Three editions were sent to press within as many years and the book rapidly displaced the Pharmacopeia itself with both physicians and apothecaries, and led to the rather anomalous condition of having a commentary that was generally accepted as being more popular and, therefore, more important than the Pharmacopeia itself.

For more than fifty years the Pharmacopeia occupied such a secondary and comparatively unimportant position to the Dispensatory that it was generally asserted that it would be practically impossible to have the Pharmacopeia published apart from the Dispensatory. Fortunately the authors of the Dispensatory were men of exceptionally high ideals and for over fifty years were the leading contributors to the advance and progress of the Pharmacopeia itself.

That the unrelenting hand of time brings changes that stay progress was evidenced in 1876, when Dr. E. R. Squibb, of Brooklyn called the attention of the members of the American Medical Association to the fact that the then official Pharmacopeia could not be said to represent the existing status of the practice of medicine and pharmacy. Dr. Squibb also pointed out that, owing no doubt to the death of one of the editors of the United States Dispensatory, Dr. Franklin Bache, and the very advanced age and practical retirement of Dr. George B. Wood, that book had not been carefully revised, or brought up to date, and, therefore, that the medical profession was entirely devoid of any authoritative work on materia medica and pharmacy.

To overcome the evident stagnation that had crept into the revision of the national Pharmacopeia, at that time, Dr. Squibb proposed that future revisions be undertaken by and conducted under the supervision of the American Medical Association. This latter proposition met with such active and bitter opposition, however, that in 1877 future consideration of this project was indefinitely postponed.

During the decade immediately following this discussion, there arose a number of additional factors to detract from the popularity and from the general use of the national Pharmacopeia. Not the least of these is to be found in the innovations that were included in the 1880, sixth decennial, revision of the Pharmacopeia itself. This is a subject that is more of pharmaceutic than therapeutic interest, however, and its further consideration may be omitted at this time.

One other factor, and not by any means an unimportant one, from an economic point of view, was the introduction of German synthetic chemicals, and the accompanying scramble for publicity by ambitious, professedly up-to-date medical practitioners in the reading pages of our medical journals.

Kairin, the first of these synthetic products to reach us, was introduced in 1883, and soon proved to be not only unreliable, but positively dangerous. It was followed, in 1884, by antipyrin, which met with phenomenal use and added untold wealth to the coffers of the manufacturer. The commercial success of this substance stimulated others to renewed activity, and in the succeeding years American physicians were deluged by an immense number of really useful, as well as positively dangerous, true and fictitious, synthetic remedies, to say nothing of the untold hundreds of elegant pharmaceuticals, all of them lauded and exploited as new remedies.

This rapid accumulation of true, as well as of pseudo, new, remedies appears to have had a stimulating effect on the editors of the several dispensatories and text-books on materia medica and therapeutics. These books rapidly grew in size and weight and also in the variety of the contained material until the official or pharmacopeial portion was lost in the superabundance of wonderful cures and remedies that were offered for the alleviation of the ills and ailments of the human family. Added to all this plethora of new remedies, there appeared a growing feeling in favor of therapeutic nihilism until it was quite proper for a physician to disclaim all knowledge of the use of drugs and boldly to assert that he was entirely independent of the necessity for such really antiquated measures as drug therapy.

The publication of the 1890, or seventh decennial revision, of the national Pharmacopeia offered or suggested but little change in the then existing conditions other than to reintroduce the long-established English practice of measuring liquids and weighing solids. Even this concession did not appear to have the desired effect of popularizing the Pharmacopeia. This no doubt was due largely to the fact that pharmacists are proverbially slow in adopting new ideas, and physicians are even slower, or are loth to insist on rational innovations being adopted wherever practicable.

With the advent of the new century, there appears to have been a re-awakening on the part of the members of the medical profession, at least, and the interest that has been manifested in the work of the Council on Pharmacy and Chemistry of the American Medical Association, the articles that have appeared in lay journals on the abuse of nostrums by the laity and, last but by no means least, the comments that have appeared in medical journals on the contents of, and the changes that have been made in, the recently issued eighth decennial revision of the Pharmacopeia of the United States of America all bear evidence to the existence of a healthy spirit of inquiry among medical practitioners in this country.

As noted before, it is to foster and to aid this spirit of inquiry and to present what, at times perhaps, may be seemingly elementary information on a well-known subject, that this series of articles has been designed. If they but tend to make the members of the medical profession more familiar with at least some of the numerous drugs and preparations that are included in the pages of our national Pharmacopeia the time that has been devoted to their preparation will not have been spent in vain, or the space in these columns wasted.

The Local Use of Tetanus Antitoxin.—An employé of the Behring Institute at Marburg, who had had tetanus twice, was accidentally inoculated in the right hand with a virulent culture of tetanus. Kuster of Marburg reports in the *Wiener klin. therap Wochschr.* that the wound was washed and treated with antitoxin, but marked tetanus of the right arm soon ensued. The axilla was then laid open and all the nerve stems thoroughly injected with tetanus antitoxin. In twelve hours the stiffness of the arm musculature had disappeared and only a slight temporary triamus remained, due perhaps to a small amount of the toxin having been carried to the spinal cord before the blocking off in the nerve trunks.

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THE PHYSICIAN AND THE PHARMACOPEIA.

It is easy to pull down, but difficult to build up.

A fool can destroy; it usually requires a genius to create.

Destructive criticism accomplishes little, often reacts and does an injury to whatever the cause may be.

Calling attention to a harmful condition of affairs, without exaggeration, and at the same time suggesting a means whereby the harmful conditions may be improved, usually brings about a better state of affairs; it never makes them worse.

For some months we have been calling attention to the nostrum evil, occasionally specifying, by name, articles that are for one reason or another fraudulent and mentioning individual firms who are deliberately deluding members of our profession by exploiting through them articles that are nostrums in the worst meaning of the word. This we shall continue to do.

We have also been calling attention to the deplorable condition that has developed by allowing unprincipled promoters—the larger number of whom know little of medicine, pharmacy or chemistry—to blight our therapeutic literature by polluting it with false or misleading statements, extravagant claims, and by publishing valueless testimonials obtained from credulous and ignorant or unthinking physicians. This, also, we shall continue to do.

All this might be called destructive criticism, and probably if we stopped at this we should accomplish little of permanent value. Construction as regards the good, as well as destruction of the bad, must be the aim. A general condemnation of all proprietary medicines is not wise and is liable to produce a species of therapeutic nihilism in a few and to have the opposite effect on the many. (However, we are not in this country suffering from too much therapeutic nihilism; the proprietary medicine men—even those who have honest, non-secret, commendable products must be included—have generously supplied us with literature so overly colored with hopefulness that it has developed a therapeutic optimism that is much more baneful than any therapeutic nihilism could be.)

Proprietary medicines,[1] as such, are not to be condemned. Some are valuable additions to our materia medica and represent advanced knowledge in chemistry, as well as in pharmacy. Those preparations, whether patented or not, which accord with the principles contained in the ten rules adopted by the Council on Pharmacy and Chemistry of the American Medical Association will be described and the description published to the profession in due time.

But something more must be done than simply to condemn the bad and to recognize the good if the present conditions are to be changed. It is repeatedly stated—and there is no doubt of the truth of the statement—that medical practitioners are incompletely prepared either to see the fallacies of the promoter's optimism or to prescribe easily for every condition without leaning on the crutches of ready-made mixtures. There is need of education here, and this education must reach both those who are about to enter our profession and those now in active practice. The young men who are now in medical colleges must at least be taught how to write prescriptions, and they should be warned of the wiles of the nostrum vendor before they are given the privilege to practice medicine, even though pathology and bacteriology have to be neglected. Then, too, something must be done to counteract on those now in active practice the influence of the too-often erroneous literature of the nostrum exploiter, as well as that of the smooth-voiced, oily-tongued, well-trained "detail man," who knows so well how to bamboozle and cajole the unwary and uninformed doctor. Further, we must recognize the fact that most of us need educating over again as regards our method of prescribing. If we are to give up using nostrums, and if we are to refuse to accept our therapeutic literature from those who are making fortunes from our acting as unpaid peddlers of such articles, we must learn what we can substitute for them and must obtain our therapeutic hints from other sources.

With the object of helping to solve one phase of the problem, THE JOURNAL proposes to present to its readers a series of articles on the relation of the physician to the Pharmacopeia. The character of these articles is outlined in the introduction which appears this week. We feel sure that they will enlighten us regarding official remedies, which have been sadly neglected by our medical schools, by medical journals, and even by authors of text-books. They will show that in the Pharmacopeia we have such a wealth of therapeutic agents that there is no real necessity for using anything not official; at least that there is no necessity for using nostrums. The basis of these articles is the Pharmacopeia, and, except incidentally, only official drugs will be discussed. In the near future the proprietary preparations which have been indorsed by the Council on Pharmacy and Chemistry will be published, probably first in THE JOURNAL, in a series of articles to follow those now begun on the official preparations.

1. See page 1889.

THE NEW ORLEANS IMBROGLIO.

The entire state board of health of Louisiana has resigned, including the president, Dr. Edmond Souchon. Following the submission to Governor Blanchard of their report on the epidemic of yellow fever, it is said that the governor announced that he wanted an investigation of the circumstances responsible for the entrance of yellow-fever infection. He expressed the intention to ask a grand jury to determine wh , if any one, had failed to do his duty. Thereon the board resigned. In its report the board concludes that it is not possible to decide the source of the original infection, but it presents probable hypotheses. It points out that in July a physician at Gulfport, Miss., was fined for reporting a doubtful case of yellow fever, though many cases subsequently developed in Gulfport, and though Governor Vardaman later severely scored physicians who did not promptly report cases. "Ship Island [quarantine station] is close to Gulfport; so is New Orleans, and the inference is obvious." Colon and Havana are suggested as possible sources of infection, as are Bocas del Toro, Belize and Port Cortez. The board suggests that the officers of our Public Health and Marine-Hospital Service stationed at Belize and Cortez did not learn of yellow fever at those ports until several weeks after the early cases occurred. Complaint is made that the Surgeon General of the Public Health and Marine-Hospital Service did not order the fumigation of empty vessel holds at infected Colon until requested to do so in June by President Souchon. It is pretty squarely charged that Havana concealed cases for months, and Cuba's quarantine system is declared to be a farce. It is also alleged that early in the summer one man twice came from infected Vera Cruz and entered Texas at Laredo without any difficulty. It is recommended that the quarantine season be advanced to begin on March 1, and that the detention period be made six days instead of five.

"The State Board of Health positively denies the statement of Dr. Kohnke in his official report" that he informed the board of suspicious cases early in July. Dr. Souchon says he received the first news of cases from physicians and notified Dr. Kohnke, and Dr. Kohnke, in his report as published, makes the same statement. In justification of its course the board makes one plea that carries weight. From the day when the first suspicious case was reported several days had to elapse before a positive diagnosis could be made, and to announce prior to demonstration that yellow fever existed would have thrown business into useless turmoil.

In our issue of two weeks ago it was noted that the chief count in the indictment brought against the Louisiana health officials by the public, and especially by the Mississippi authorities, was the fact that reduced-fare railroad excursions into New Orleans from neighboring towns and states on July 19 were permitted without warning of danger to bring great crowds into an infected city. This is based on the fact recorded by Dr. Souchon and Dr. Kohnke that the first suspicious cases were reported on July 12 and again on July 15. Dr. Souchon reports that he saw two cases on July 18 at the Hotel Dieu "presenting symptoms of yellow fever." He called a meeting of the state board of health for July 19 (the very day the excursionists were in the city), at which meeting a resolution was passed "instructing President Souchon to write to Dr. Wyman, Dr. Tabor of Texas, Dr. Hunter of Mississippi, and Dr. Sanders of Alabama that there were cases here presenting symptoms of yellow fever, and also to wire them to expect a letter by to-day's mail." The first positive diagnosis confirmed by autopsy findings was made on July 22.

So far as present information goes, therefore, it is impossible fairly to charge the Louisiana authorities with deliberate concealment. Of course, it was the very acme of unfortunate mischance that a popular excursion to New Orleans should have been run during the very days when the diagnosis necessarily was in doubt. Mere suspicion of infection would not have justified the alarm aroused by canceling the excursions, nor is there the least evidence that the authorities knew that the infection was sufficiently widespread to endanger the excursionists of a day. Of course, it is also only too evident that the real early cases, those during May and June, were not reported to the authorities nor found by inspection. In part this was due to the misleading mildness of the atypical first cases and to the consequent and wholly excusable failure of diagnosis, but, it is to be feared, in further part to concealment of cases by a few physicians practicing among the Italians.

In New Orleans, as elsewhere in this country, the public and the authorities have not secured effective sanitary organization, with all its requirements and restrictions. From this defect in preparation as the fundamental factor arise such controversies as the present one in New Orleans. This one could have been avoided had the community heeded the pleadings of Dr. Kohnke, three years previously, that scientific preparations be made to meet a possible yellow-fever infection.

PHYSICIANS IN RELATION TO PUBLIC HEALTH WORK.

Dr. Wesbrook[1] emphasizes the difficulties in the way of securing adequate care for the public health, and suggests certain remedies for the difficulties in regard to the value of which there is little or no room for difference of opinion. We wish to lay special stress on the service that medical men in general may render public health by at all times upholding the need of special training and expert knowledge in this branch of public work, not only on part of laboratory men, but also on the part of health officials, state and municipal. Most of these officers are appointive, and many no doubt often conscientious executives appear to believe that any reputable

1. See page 1835.

physician is fully competent to be commissioner of health of a city or secretary of a state board of health. This is a dangerous tendency that frequently robs the public of the full benefits of modern public health science. It is self-evident that the person who is to direct the sanitary activities, with their numerous ramifications in different directions, of a great city or of a whole state can not do so properly if he has been largely out of touch with the recent development of public health science, as necessarily must be the case with the physician whose time and energy are devoted to medical practice in the usual sense. Indeed, we doubt whether physicians thoroughly appreciate the great growth of this science in recent years. Dr. Wesbrook's address gives us some idea of this growth, with its corresponding specialization. We observe that it is quite impossible for one man to be expert in all the branches of science concerned with public health; the most that can be expected is that he has a broad basis of general knowledge on which he has specialized in some particular direction. Now our appointing powers must be thoroughly informed of this new order of things in the hope that specialization in public health science may be better appreciated and the public welfare promoted.

While physicians advance public health through their advice, their rules and their example, it is very important indeed that they should fully recognize the tremendous importance to the prevention of acute communicable diseases that outbreaks of these diseases be recognized early. This means an early and correct diagnosis. In scarlet fever and smallpox it is doubtful whether laboratory methods as yet can aid in diagnosis except by way of exclusion, but in several other infectious diseases, notably typhoid fever, cholera, dysentery, these methods may be the means of settling the diagnosis before the clinical picture has become so characteristic as to remove all doubt. Hence physicians should not hesitate in doubtful cases of probable infection to call on the municipal or state laboratories for help. It is to be feared that in many cases apathy, and neglect to utilize the means at hand, lead to delay in the diagnosis of infectious and communicable diseases. Increased knowledge and increased facilities for prompt work lead to increased responsibility on part of the physician who now no longer can afford to take any chances with the mild case of suspicious throat diseases or of possible typhoid.

Of course, Dr. Wesbrook's suggestion in regard to a traveling laboratory is an excellent one, but we believe that there is and always will be great need for fully equipped local laboratories arranged to meet the needs of larger and smaller districts. Certainly every city of 10,000 and upward should have its own laboratory, just as well as its own hospital. While the practical management of these local laboratories remains to be worked out, there is no question but that one of the great needs of practical medicine and public health now is to bring modern means of exact diagnosis as near to the door of the private practitioner as possible.

MULTIPLE PRIMARY MALIGNANT TUMORS.

Among the striking characteristics of tumor growth that are of importance in considering the various theories of tumor causation is its specific unity. A tumor begins to grow in one place at one time with so few exceptions that this unity may be considered as a rule of growth. A tumor may grow in an organ containing several types of tissue, but only one of these types assumes malignancy, and this one alone persists malignant until the end. A tumor in the breast may start from the epithelium and form a carcinoma, or it may start in the connective tissue and form a sarcoma, but as yet no one has described a tumor of the breast that started from both structures and was a mixed "sarcocarcinoma." The carcinoma may produce secondary growths in a strictly connective-tissue structure, for example a vertebra, but the secondary growth will still, without a single known exception, be a carcinoma. If the sarcoma produces secondary growths in an epithelial organ, say the liver, the secondary growths will invariably be sarcomas. The cause of sarcoma must, then, be looked on as having a specific nature, so specific that it can not produce a carcinoma even when in a place where the epithelial elements vastly predominate; the cause of carcinoma must be equally specific.

Of such significance is this rule of growth that the question of its exceptions becomes of great importance. How often and under what conditions do primary tumors occur simultaneously in different places in the same individual, and how often do primary tumors of different natures occur in the same place at the same time, forming a tumor composed of two sorts of malignant tissue at once? Occasionally reports have been made of cases of multiple primary tumor formation in which the individual has had distinct primary growths arising in different places either at one time or at different periods of time. Usually both tumors are of the same character, and generally they are carcinomas. One of the most commonly observed of these is the formation of independent skin carcinomas on different portions of the body, particularly in the aged. Nehrkorn has even observed three such independent primary growths in different portions of the intestinal tract in which the histologic structure was so distinct as to guarantee the independence of the growth—for example, a squamous cell carcinoma of the esophagus and a cylindrical cell carcinoma of the stomach. Van Hansemann was able to collect but twenty-two cases in the literature in which patients had had a carcinoma in one part of the gastrointestinal tract and another in some other part of the body at the same time, and in none were more than two primary growths observed. In spite of their close functional relation, however, and the frequence of primary tumors in each organ, only two of three cases have been reported in which a patient suffered with carcinoma in the uterus and in the mammary gland at the same time. There are more instances of simultaneous growths in the uterus and ovaries, but

the ease of extension and metastasis from one to the other makes these cases more uncertain. The same difficulty exists in the cases of apparent primary carcinoma and sarcoma of both ovaries, of which many have been reported.

The simultaneous occurrence of carcinomas and sarcomas is even less frequent, particularly if we exclude a number of the cases of such tumors in the uterus or ovaries, in which the observers have evidently been misled by the peculiar sarcoma-like character of the cells of the stroma of the ovary and submucosa of the uterus. The most valuable of these cases are those in which separate metastases of sarcoma and of carcinoma have been found, and of these there are less than half a dozen. Such a case is that reported by Grawitz, the patient being a woman of 67 years, who, in addition to several benign myomas of the uterus, had a sarcoma of the uterus and a carcinoma of the small intestine, each of which had produced metastases of its own kind in other organs.

Most interesting of all are the tumors which contain both sarcomatous and carcinomatous elements in the same primary growth. If we consider the relation of prolonged irritation to the production of malignant proliferation of cells, we might reasonably expect, from this cause alone, that the rapidly-growing, irritated and inflamed stroma of a carcinoma might take on proliferation of a malignant type. Or if we consider Cohnheim's theory that tumors arise from misplaced nests of embryonal tissue, and that most of such nests (e. g., adrenal nests in the kidney) contain both epithelial and connective tissue structures, we might expect that both types would take on malignant proliferation at the same time. In spite of both of these possibilities, however, such primary mixed tumors are among the rarest of occurrences—there are scarcely a dozen cases reported. For some unknown reason they are most frequently present in the thyroid, and hence have usually been secured as surgical specimens by operation. Perhaps on this account in but one of these cases has the final conclusive evidence of dual nature been shown; that is, the production of metastases containing both types of cells. This was a "sarco-carcinoma" of the thyroid of a dog, reported by Wells,[1] which produced metastases of pure carcinoma, pure sarcoma, and of the mixed sarco-carcinomatous tissue. Other cases of sarco-carcinoma have been reported in this country—in the white rat by Leo Loeb[2] and in the human thyroid by Wooley.[3]

If we try to secure light on the theories of tumor etiology from these observations, we do not find the illumination a very clear one. Only the distinctly specific nature of carcinoma and sarcoma stand forward; that so few mixed or multiple growths have been examined shows that the cause of carcinoma is probably quite distinct from that of a sarcoma. This fact might be interpreted equally well in favor of the idea of a specific parasite, or of the theory of an inherent, fundamental change in the process of cell multiplication—the two prevailing theories. That multiple primary tumors are so rare surely controverts the theory of a "tumor diathesis" and also, to some extent, speaks against the idea of hereditary influence; the laws of chance would account for the small number of cases that have been reported. Grawitz considers that the infrequence of multiplicity speaks against an infectious origin, an idea with which we can scarcely agree, for how often do we have primary simultaneous infections of different organs by pathogenic bacteria?

In considering unusual pathologic conditions, such as these mixed tumors, a point of regret to the pathologist is that the great majority of such cases do not get into the literature. It would probably be safe to estimate that there occur a score of cases of multiple primary malignant tumors for every one that is reported. They are recognized by physicians frequently enough, and perhaps talked over among colleagues, but, not being recorded in the literature, their chief value is lost. No one man can have a large enough acquaintance with the rarities of pathology to draw safe conclusions from them. It is necessary to collect a large number of individual experiences to make deductions, which in many instances are of great importance in matters that are not uncommon. It is, therefore, a very real duty of every physician to make his own observations on unusual matters available to others. A careful report of any of the unusual conditions personally observed has a more permanent worth than a score of articles which contain merely reflections resulting from considering the writings of others, no matter how well presented and how instructive they may be. The man who has a case of acromegaly, or of acute yellow atrophy, or carotid gland tumor, or of blastomycosis, or of any of the other important but rare diseases, and does not make the facts available to others, is committing a sin of omission.

1. Jour. of Pathol. and Bacteriol., June, 1901.
2. Amer. Jour. Med. Sci., February, 1903.
3. American Medicine, 1902, Aug. 30, p. 331.

BEHRING'S NEW REMEDY FOR TUBERCULOSIS.

The summary by Dr. Klebs, in this issue, of Behring's address at the International Congress for Tuberculosis gives us as clear an idea as at present attainable of the real gist of this matter. Shorn of bewildering detail and ambiguities, Behring's method consists in the use, for protective and curative purposes, of certain otherwise harmless constituents of the tubercle bacillus. The method appears to be a natural outgrowth of the successful immunization of cattle against bovine tuberculosis by means of injections of human and other varieties of tubercle bacilli. The introduction of living tubercle bacilli into human beings is not practicable and consequently it became necessary to try to secure the immunizing and possibly also curative substance or

substances in sterile form, and this it is that Behring indicates that he believes he has succeeded in doing.

In this work Behring follows paths already broken in the efforts to obtain protective and curative substances from tubercle bacilli, as well as from other bacteria. E. Klebs has maintained for years that tubercle bacilli contain a curative element. Some of the earliest successful immunizations against tuberculosis were accomplished by Trudeau, de Schweinitz and others in this country. In recent years much effort has been given also to obtain in as pure form as possible the substances of cholera, pest, typhoid and other bacteria that give rise to immunity in susceptible animals in order to develop practical methods of preventive inoculation, and considerable progress has been made in this respect.

Translated into the terms of present-day immunology, the various ideas expressed as to the mode of action of "the curative element" of the tubercle bacillus, one would say that tubercle bacilli, like pathogenic microbes in general, contain certain elements or antigens which, when introduced into suitable animals, may give rise to cellular reactions, leading to the formation of specific antibodies of various kinds and possibly to the development of a kind of cellular immunity, the nature of which we do not now understand. Concerning these antibodies little is yet actually known, but there is some reason to believe that bodies concerned in phagocytosis are of particular importance.

With the scanty information now at hand it is easier to understand the protective than the curative action of Behring's "TC" or tubercle antigens. One may conceive, however, that the injection in the infected organism, at a favorable period, of considerable quantities of antigens would stimulate and hasten the reactions that tend to natural healing, which we know occurs in a large per cent. of infected persons after a certain age. But at this juncture the advice given by Hunter to Jenner seems peculiarly applicable: "Don't think, but work!"

RATIONAL SANITATION.

In a very readable article in *Leslie's Weekly* for November 23, Surgeon J. H. White, United States Public Health and Marine-Hospital Service, who was in charge of the victorious fight against yellow fever at New Orleans, outlines the lessons of the epidemic. The chief one is in his title: "No more shotgun quarantines for yellow fever." The task faced in New Orleans this year was much more formidable than that at Havana in 1901. In the matter of sewers, water supply and dwellings New Orleans was in worse condition, while Havana had a docile population accustomed to military rule. A sane and rational quarantine admits any one from any where after six days' observation, and freely admits persons in good health who can prove that they have not been in an infected locality. Many persons from infected towns were openly admitted to New Orleans, but none of them gave rise to further cases. All that is necessary, in fact, is to know just where each entrant resides, so that surveillance can provide for prompt isolation, screening and fumigation. "A case of yellow fever known is a case of yellow fever extinguished." Dr. White thinks "that train infection is a myth." About 100 Mississippi guardsmen for sixty days traveled back and forth from New Orleans to the Alabama-Mississippi line in the same cars with New Orleans passengers, but not one guardsman was infected. He believes "that the infector, the *Stegomyia fasciata*, remains very close to the point where it receives its infection, and that for all practical purposes the disinfection of the houses themselves will result in the elimination of the infection in nine hundred and ninety-nine cases out of a thousand."

A UNITED PROFESSION IN NEW YORK.

According to a telegram received as we go to press, at a special term of the Supreme Court, held in Rochester, December 9, Judge Davy signed the order consolidating the Medical Society of the State of New York and the New York State Medical Association. This, as we understand it, removes the last technical obstruction to the uniting of the two state bodies. The members of the county societies become members of the district branches and of the state society, and thus the new body contains a membership of over 6,000. As we understand it, the new constitution and by-laws of the old state society become effective immediately, but until the county societies have elected delegates to the house of delegates to the state society the management will be carried on by the state officers and the chairmen of standing committees. Thus the movement that was started nearly four years ago has finally accomplished the object for which it was started. Since January, 1902, the committees representing the two bodies have been constantly at work arranging details and overcoming legal and other obstructions. The committees are certainly to be congratulated on the result of their work, and should have the thanks of the profession not only of New York, but of the whole country. A reunited profession will celebrate the hundredth anniversary of the organization of the Medical Society of the State of New York at the annual meeting to be held next month in Albany.

FOOD-STORAGE REFORM.

A bill which was introduced at the last session of the New York Legislature, but which failed to pass, is to be again introduced at the coming session. It provides for the prohibition of the storage of poultry or game in an undrawn condition and the sale of such to the public. Attention has been called to the many cases of toxin infection from eating game and poultry which has been stored in an undrawn state. Naturally, the bill will be resisted by powerful interests, but it ought to pass. The idea of eating fowls which have been hung up in storage for indefinite periods with decomposing viscera unremoved, is not esthetically attractive, and public opinion and requirements ought to be easily molded against such practice, even if the very evident sanitary conditions have less weight.

THE "DRUMMER" EVIL AT HOT SPRINGS.

It appears to be a fact that, in spite of the United States control of the Hot Springs reservation, the old evils there still exist. It has become one of the great health resorts of the country, but for some reason, perhaps for the lack of sufficient legislation by Congress or the state legislature, or lack of sufficient power on the part of the authorities to enforce existing enactments, the drummers and quack doctors are still in evidence and the commercialism and graft that were before notorious are still in full sway. The leasing of the privileges by the government under present regulations is held by some to be responsible for this. As far as the general government is responsible for matters at Hot Springs, it is its duty to make and to enforce such rules as will bring about a better state of affairs. If legislation by Congress is necessary it should be attended to at once. If the cession of state control is not sufficiently complete the people of Arkansas have also a duty in the matter. The continuance of the old state of affairs, as alleged, is a credit to no one.

TREATMENT OF ARTERIOSCLEROSIS.

While it can not be denied that heredity is a not unimportant factor in the development of arteriosclerosis, still it must be admitted that not less significance is to be attached to the exciting factors, namely, strain, infection and intoxication. The effects of the former are not readily averted, although something can be done in this direction, while numerous prophylactic measures may be instituted to exclude the latter. The disease of the vessels must be looked on as a response of the tissues to various irritants, and in its prevention effort must be directed to strengthening resistance and to avoidance and removal of undue stimulation. Even when developed the disorder is not wholly unamenable to therapeutic intervention. At least its effects can be ameliorated in part and its further progress retarded. Great usefulness in this direction is claimed by Dr. E. Hirschfeld[1] for the systematic employment of hot baths, from which he has obtained favorable results during a period of two and a half years. Precision in application is essential to success. The reactivity of the individual patient must first be determined. If the patient be a male not above 55 60 years of age, the bath may be begun at a temperature of 102 degrees. The immersion should not, as a rule, be continued for less than ten minutes. On the other hand, the treatment should not be undertaken unless the left heart be sound and the vascular pressure good. In general, though not without qualification, it may be said that the hot bath is likely to do good when digitalis is contraindicated, and conversely. The good effects of the hot bath in the treatment of arteriosclerosis are to be attributed (1) to a reduction in blood pressure by unloading the internal organs and increasing the supply of blood to the skin; (2) to increased combustion, as indicated by elevation of bodily temperature; (3) to increased elimination of waste products superinduced by the resulting perspiration.

1. Australasian Med. Gaz., vol. xxiv, No. 7, p. 319.

Medical News

CALIFORNIA.

Physician Twice Fined.—Dr. Francis J. Todd, Oakland, on November 16 was fined on one count $2 and on another count $5 for exceeding the automobile speed limit.

Sent to Prison.—Dr. Herbert T. Thornburgh, San Francisco, an employé of a patent medicine manufacturer, was sentenced on November 18 to serve two and one-half years in the state penitentiary at San Quentin for forgery.

Midwife Not Guilty.—Emelie Sutler Simon, a midwife, of San Francisco, charged with causing the death of Mrs. Angela Venezia by a criminal operation, was discharged November 11, the judge stating that he found no proof of guilt.

Inmates in State Institutions.—The State Board of Charities reports the following number of inmates in the various institutions of the state: State Hospital at Stockton, 1,099; at Napa, 1,491; at Agnews, 1,063; at Mendocino, 667; and in southern California, 833.

October Vital Statistics.—Reports from 53 of the 57 counties in the state show 1,873 births, equivalent to an annual rate of 13.1 per 1,000; 2,117 deaths, equivalent to an annual rate of 14.9 per 1,000; and 1,464 marriages. Tuberculosis led the death causes, with 299, followed by heart disease with 184, pneumonia with 127, injuries (including suicide) with 127, cancer with 119, diarrhea with 112 and Bright's disease with 106 deaths.

Hospital News.—Mrs. Millicent Olmstead, San Gabriel, has executed a deed setting aside a residence and business property in Los Angeles and a ranch in Elmonte, to be sold after her death and the proceeds devoted to the establishment and maintenance of a free hospital. The property deeded is valued at more than $200,000.——The Oceano Outdoor Sanatorium for Consumptives, Santa Monica, netted $1,374.89 from the garden fête recently given by Miss Georgiana Jones at Miramar.——The new detention hospital for Los Angeles at Chavez Ravine will be completed in about three months.——Pasadena Hospital is to have a handsome addition 124x75 feet, to cost about $30,000, accommodating 30 patients and given by O. S. A. Sprague as a memorial to his late wife.

COLORADO.

New Hospital.—A new hospital is to be erected at Boulder Hot Springs at a cost of $9,000.—A non-sectarian hospital, under the auspices of the Colorado Conference of Deaconesses, will be erected in Colorado Springs at an expense of $100,000.

Additions to Sanatorium.—The new St. Anthony addition to the Glockner Sanatorium, Colorado Springs, has been erected and equipped at a cost of about $40,000, and 29 tents or cottages have been located on the grounds of the institution, at a cost of about $23,000.

The Old Trick.—Forty well-to-do farmers of Weld and Morgan counties are protesting against the payment of promissory notes of $42 each, which they gave to an itinerant alleged physician a year ago on the condition that they should be cured of rheumatism. As none of the victims received benefit they naturally object to paying the notes.

CONNECTICUT.

Hospital News.—The by-laws of Norwalk Hospital have been so amended as to increase the maximum hospital staff from eight to ten.——Dr. Kenneth E. Kellogg, a member of the consulting staff of New Britain Hospital, has been placed on the attending staff and Dr. Katherine H. Travis has been appointed pathologist and bacteriologist, and Dr. Roger M. Griswold, Berlin, consulting physician.——The Danbury Hospital Association has filed articles of incorporation.——The cornerstone of St. Francis Hospital, Hartford, was laid with appropriate ceremonies October 29.

DISTRICT OF COLUMBIA.

Hospital Plans Approved.—The plans for the United States Army General Hospital, Washington, have been approved by the Secretary of War and the committee in charge, consisting of Majors Borden, McCaw and Stevens. Congress has appropriated $300,000 to complete the building.

Health Report.—The report of the health officer for the week ended December 2 shows that 101 deaths occurred and 114 births. At the close of the week the following cases of contagious diseases were under treatment: Diphtheria, 89; scarlet fever, 20; typhoid fever, 140, and smallpox, 5. The health department is investigating a number of the sources of milk supply to determine, if possible, the source of infection.

Inspection of Government Buildings and Offices.—An order has been issued for the President creating a commission consisting of Surgeon-general Robert M. O'Reilly, U. S. Army; Surgeon-general Presley M. Rixey, U. S. Navy, and Surgeon-general Walter Wyman, U. S. P. H. and M.-H. Service, to prepare and submit to the President for approval a plan for instituting an inquiry through the proper officers of the government as to the sanitary conditions existing in all government offices and workshops where a large number of persons are employed, especially with a view of recommending, if necessary, measures for prevention of tuberculosis therein, and furthermore, to detail one or more persons from each of the public services named, to assist in the formation of a plan for investigation and action.

ILLINOIS.

Diphtheria.—Owing to the prevalence of diphtheria the schools at Metcalf have been closed.——Shelbyville schools are closed on account of diphtheria.——The village of Washburn, Woodford County, is under quarantine and schools have been closed on account of the prevalence of diphtheria.

Oak Park Hospital.—At a meeting of the Oak Park Business Men's Association, December 8, Dr. John W. Tope announced that he had purchased a site for a hospital and that the Sisters of Misericordia of Montreal would build a hospital on this site next year. He declined, however, to give the location of the hospital site.

Civil Service Board.—The civil service commission has selected Drs. Hugh T. Patrick, Frank Billings, John B. Murphy and Harold N. Moyer, Chicago, and Dr. Frank P. Norbury, Jacksonville, as a board to prepare the questions and grade the papers in examinations for assistant physicians in the state hospitals for the insane.

Northern Illinois Physicians Meet.—The North Central Illinois Medical Association held its thirty-second annual meeting in Streator, December 4. The following officers were elected: President, Dr. James J. Pearson, Pontiac; vice-presidents, Drs. Edgar P. Cook, Mendota, and Edward S. Murphy, Dixon; secretary and treasurer, Dr. George A. Dicus, Streator, and censors, Drs. Franklin A. Turner, Sandwich; John M. Kaiser, Somonauk; James A. Marshall, Pontiac; Roy Sexton, Streator, and Joseph I. Knoblauch, Metamora.

Personal.—Dr. David W. Magee, Peoria, fell November 24, sustaining a compound fracture of the left hip.——Dr. Lemuel Tibbets, Rockford, will move to California after the holidays.——Dr. John B. Miller, Gilson, has decided to move to New Mexico.——Dr. James C. Stewart, Anna, has been appointed local surgeon for the Illinois Central Railroad, vice Dr. Samuel Dodds, removed.——Dr. and Mrs. George F. Heidemann, Elmhurst, have gone to Alabama for the winter.——Drs. Robert J. Christie, Jr., and Otis Johnston, Quincy, have been appointed local surgeons for the Burlington System.——Dr. Frank H. Lord, Plano, has gone to New Mexico.

Itinerant Vendor Brings Suit.—James Ferdon, an itinerant vendor of medicines, who advertises himself as "Brother Paul," and who has already been noticed in THE JOURNAL, has brought suit in Cook County against the State Board of Health to recover $100 held by the board. Ferdon made application for an itinerant vendor's license and tendered the fee of $100, which was accepted by the secretary of the board. The application was referred to the board and declined. In the meantime "Brother Paul" began operations in Freeport, using the receipt of the State Board of Health as his evidence of authority. Suit was brought against him by the board and fines of $1,800 and costs found against him. Ferdon left the state and went to Iowa where, on information given by the Illinois board, action was taken against him by the Iowa Board of Medical Examiners. Ferdon now brings action to recover the fee of $100, which the State Board of Health holds as a partial offset of the fines assessed against him.

Litigation in Enforcement of Medical Practice Act.—E. M. Harrison, who holds a diploma issued in 1903 by the now defunct Dunham Medical College, has begun action against the State Board of Health in the Circuit Court of Cook County, to compel the board to issue him a certificate without examination. The action is based on section 2 of the Medical Practice act, which provides that the board may issue certificates to graduates of Illinois medical colleges in good standing without examination. The attorney-general in 1899 held that "may" in this instance must be construed as "shall." On December 12 Judge Chytraus denied the writ of mandamus and held that it is discretionary with the board whether certificates be issued under this provision.——Several years ago the State Board of Health brought suit against Dr. Peter R. Langdon, who had practiced in Kankakee for many years, but who holds no certificate from the state board. Dr. Langdon contended in his defense that the law does not apply to him, inasmuch as the law states that "no person shall hereafter begin the practice of medicine, etc.," while he contends that he did not begin practice after the passage of the law. He was sustained in this position by the Circuit Court of Kankakee County and, on appeal by the State Board of Health, the Appellate Court affirmed the decision of the lower court. This case is now pending in the Supreme Court, and the board is hopeful that the decision of the Appellate Court will be reversed.

Chicago.

Head Eligible List.—Of the 68 applicants who took the examination for the civil service examination for medical inspectors in the health department, Dr. Edward W. Quick received the highest mark; Dr. Paul F. Morf was second; Dr. Joseph T. Friedman, third, and Dr. Kellogg Speed, fourth.

A Patient's Ingratitude.—In the case of Abraham Bernstein, who sued Dr. George F. Suker for $10,000, alleging that he had been made blind through on operation performed by the defendant two years ago, the court instructed the jury that there was no case against Dr. Suker who, the evidence showed, had treated the plaintiff gratuitously for two years as a result of which the man's sight had slightly improved.

Personal.—Dr. Maurice M. Doty has been appointed traction expert, which includes the duty of enforcing the ordinances tending to ensure satisfactory street car service.——Dr. Edwin Jansa reached Los Angeles after a trip around the world.——Dr. Alonzo M. Wheeler has been elected president of the Chicago Association of Kalamazoo College Alumni.——Dr. Garrett J. Hagens met with a serious accident in a runaway three weeks ago in which his right hip was injured. He is now able to be about.

Deaths of the Week.—Although there were 71 deaths more reported for the week ended December 9 than for the previous week, and 42 more than for the corresponding week of last year, the health conditions are considered fairly satisfactory. The 554 deaths reported are equivalent to an annual death rate of 14.50 per 1,000, and this is nearly 4 per cent. lower than the average December rate of the previous decade. The increases in the chief causes of death are: Bright's disease, 11; tuberculosis, 12; heart diseases, 7; pneumonia, 21, and violence, 20. The number of deaths from these causes was as follows: Pneumonia, 83; consumption, 79; Bright's disease, 51; heart diseases and violence, including suicide, each 47.

INDIANA.

Sick and Afflicted.—Dr. John C. F. Thorne, Kokomo, was committed to a private sanatorium at Kenilworth, Ill., November 29.——Dr. Christopher C. Cronkhite, Marion, has entered a sanatorium at Hartford City to take treatment for the drug habit.

Laboratory of Hygiene Opened.—The State Board of Health announces that the State Laboratory of Hygiene, Indianapolis, is now open and ready to serve the public without cost. The department has two divisions—one of bacteriology and one of chemistry. On application physicians are supplied with outfits for the culture of diphtheria and for collecting sputum and blood for examination.

Personal.—Drs. Edmund D. Clark, Thomas B. Noble and Frank A. Morrison have been selected as a board of health for Indianapolis.——Dr. Morton J. Compton, Evansville, has been appointed secretary of the Vanderburg County Board of Health, vice Dr. Willis S. Pritchett.——Dr. John M. Fouts, Centerville, has been reappointed physician for the Wayne County Infirmary, and Dr. George H. Grant, Richmond, secretary of the Wayne County Board of Health.

Allen County Society.—At the annual meeting of this society resolutions were adopted approving the Council on Pharmacy and Chemistry, which appear elsewhere in this issue of THE JOURNAL. The following officers were elected: President, Dr. Maurice I. Rosenthal; vice-president, Dr. Eric A. Crull; secretary, Dr. J. Clifford Wallace; treasurer, Dr. William P. Whery, and censor, Dr. Samuel H. Havice, all of Fort Wayne. The society now has a membership of 84.

LOUISIANA.

Children's Sanatorium.—A sanatorium exclusively for children is to be located at 850 Carondolet Street, New Orleans, to be presided over by Dr. Erastus D. Fenner, lecturer on diseases of children in the medical department of Tulane University.

Want School of Tropical Medicine.—The administrators of Tulane University have asked the faculty of the medical department of that institution for an expression of opinion regarding the establishment of a school of tropical medicine in connection therewith.

Colored Medical Association.—At a meeting of the colored physicians of Louisiana at Alexandria, November 15, a state medical organization was organised, with the following officers: Dr. Green A. Cain, Shreveport, president; Dr. L. M. Coleman, Lake Charles, vice-president; Dr. Isaac W. Young, Alexandria, secretary, and Dr. James P. Jones, Alexandria, treasurer.

A Yellow Fever Martyr.—Garnett Barnette, a medical student of Bonami, who, when the outbreak of yellow fever occurred, offered his services to the State Board of Health, and who worked hard in Bonami in the effort to stay the ravages of the disease, died from yellow fever October 20, after an illness of eight days, aged 28. Young Barnette was a brilliant student and a young man of fine promise, and in his death exemplified the love than which none is greater, "that a man lay down his life for his friends."

MARYLAND.

Deaths.—The deaths in Baltimore last week were 201, as compared with 214 for the corresponding weeks the last two years.

Left Large Estate.—The late Dr. Charles Carroll Shippen, Baltimore, who died November 6, left a personal estate appraised at $140,488.

Seat May be Contested.—The seat of Dr. Richard S. Hill, Upper Marlboro, Prince Georges County, who was announced to have been elected to the House of Delegates by 65 majority, will be contested.

Inducements of Naval Medical Service.—Medical Director R. A. Marmion, United States Navy, delivered an address in Anatomical Hall, Baltimore, December 9, on "Inducements which the Naval Medical Service Offers to Capable Medical Men."

Bequests.—The late Mr. William Ferguson, Baltimore, by will, left residuary bequests of $5,000 to the Presbyterian Eye, Ear and Throat Hospital to aid aged mechanics or members of their families unable to pay, and $10,000 to the Hospital for Consumptives for the benefit of impecunious consumptive mechanics.

City Society Meeting.—The Baltimore City Medical Society, the city branch of the Medical and Chirurgical Faculty of Maryland, held its annual meeting December 6. Dr. W. S. Thayer was elected president, and Dr. W. Edward Magruder was re-elected secretary. A resolution was adopted endorsing the Anti-Smoke League movement.

MASSACHUSETTS.

Fire at Hospital.—A fire at the Springfield Hospital November 21 damaged an old building and a laundry annex to the extent of $3,000, fully covered by insurance.

Centennial of Society.—The Essex South District Medical Society held its centennial anniversary in Salem November 21. The papers read were chiefly of an historical nature, dealing with the early days of the society and its early members.

Bequests.—By the will of Samuel Iyers of New Bedford, $500 is left to St. Luke's Hospital, $250 to the Instructive District Nursing Association, $500 to the North Day Nursery, $500 to the South Day Nursery, besides similar amounts to many other charities.

Poison in Lunch.—Dr. Herbert J. Keenan, chairman of the committee on mechanic arts, High School, Boston, from which most of the cases of ptomain or formaldehyd poisoning have been reported, has made a careful study of the cases of illness which originated in that school, and declares that in almost every case the symptoms were those of formaldehyd poisoning.

New Boat for Floating Hospital.—The board of managers of the Boston Floating Hospital have decided to build a new boat. It is to be 170 feet long and 46 feet wide, with wards to contain not more than 16 sick babies each. Accommodations will thus be provided for 100 patients, besides another 150 who can be taken out on the upper deck for the day. This will practically double the capacity of the hospital, which for several years now has turned away, for lack of room, nearly or quite as many as have been admitted. The cost of the new boat will be about $60,000, and earnest efforts are being made to raise this entire amount.

Personal.—Dr. Arthur G. Minshall is in charge of the medical department of the Dickinson Hospital, Northampton, for the coming quarter; Dr. Alfred H. Hoadley of the surgical department; Dr. Clarence R. Gardner of the eye and ear department, and Dr. Justus G. Hanson of the pathologic department.——Bert R. Rickards has been appointed head bacteriologist of the Boston Board of Health.——Dr. Clarence P. Curley, Provincetown, has been appointed medical examiner for the third Barnstable district, vice Dr. Samuel T. Davis, Orleans.——Dr. Philip Kilroy has been appointed dermatologist and neurologist on the staff of the Springfield Hospital.——Dr. Frank D. Stafford, North Adams, who has been seriously ill with septicemia due to an operation wound, is improving.——Dr. George L. Perry, Athol, has been elected a member of the board of health, vice Dr. Garrett B. B. Larkeque, resigned.——Dr. C. E. Street has been made a member of the staff of the Isolation Hospital, Springfield, vice Dr. T. S. Bacon, resigned.——Dr. Percy C. Procter, Gloucester, retired from practice December 1 and was succeeded by Dr. Philip F. Moore.——Dr. and Mrs. Albert C. Cobb, Marion, arrived in New York November 27 from Vienna.——Dr. Edward O. Otis, Boston, has been appointed visiting physician at the State Sanatorium for Tuberculous Patients, Rutland, vice Dr. Vincent Y. Bowditch, Boston.——Dr. Robert W. Lovett has been elected attending surgeon and Dr. Henry R. Hitchcock attending physician of the New England Peabody Home for Crippled Children.——Dr. Timothy J. Reardon, for several years assistant laryngologist at Carney Hospital, Boston, has been appointed trustee of the Boston City Hospital, replacing Henry H. Sprague.

MICHIGAN.

Smallpox.—Four cases of smallpox are reported at Hudson's logging camp near Menominee.

Money for Hospital.—The bazaar at Kalamazoo for the benefit of Borgess Hospital netted about $6,000 for the institution.

Personal.—Dr. William J. Stapleton has been appointed physician of Wayne County to succeed Dr. S. L. Polozker, resigned.——Dr. John E. Clark has been appointed chemist and Dr. E. B. Forbes, a physician of Wayne County.

Physician Gets Damages.—Dr. Eugene Smith, Detroit, was awarded $1,500 damages in the United States Court at Trenton, N. J., November 29, for injuries received by being thrown from a berth on board the steamer *Vaderland*, belonging to the International Mercantile Marine Company.

Women's Efforts Erect Hospital.—The new $40,000 hospital building erected at the Michigan Insane Asylum, Kalamazoo, at a cost of $40,000, was formally dedicated November 8. This building is the result of three years' earnest work by the women of Kalamazoo, who formed a women's auxiliary for this purpose. The building is fireproof, four stories in height, thoroughly equipped and will accommodate 50 patients.

MINNESOTA.

Personal.—Dr. and Mrs. C. M. Kistler, Minneapolis, have gone to Europe.

An Unhealthy November.—November was an unhealthy month at Minneapolis. More than 30 deaths were caused by pneumonia and typhoid fever, and the deaths from all causes numbered 225, equivalent to an annual rate of 10.3 per 1,000.

Lift Debt of Hospital.—Messrs. D. C. and F. B. Shepherd, St. Peter, gave $35,000 at a thanksgiving offering to St. Luke's Hospital Association to pay the mortgage indebtedness of that institution. The gift is made in memory of Mrs. D. C. Shepherd, who died three years ago.

Minnesota Valley Physicians Meet.—At the twenty-sixth annual meeting of the Minnesota Valley Medical Association, held in Mankato December 5, resolutions of condolence were adopted on the death of the late secretary, Dr. Edwin D. Steel, Mankato. The following officers were elected: Dr. Michael Sullivan, Adrian, president; Drs. George R. Curran, Mankato, and Fred P. Strathern, St. Peter, vice-presidents; Dr. Adolph G. Leidloff, Mankato, secretary, and Dr. George F. Merritt, St. Peter, treasurer.

Hospital News.—The George B. Wright Memorial Hospital, Fergus Falls, was opened for patients November 15. The board of trustees of the City and County Hospital Association of Albert Lea has leased the hospital property of Dr. Hamilton H. Wilcox in that city and the building will be converted into a general hospital.——The committee on streets has ordered an unfavorable report on the application of Miss Helen G. Hill for a license to operate a hospital for crippled children in St. Paul.

MISSOURI.

Taken to State Hospital.—Dr. James T. Johnson, Shell City, has been committed to the State Hospital for the Insane No. 3, Nevada.

Hospital Sunday.—It is estimated that the receipts from the Hospital Saturday and Sunday Association, St. Louis, December 2 and 3, will reach $35,000.

Examination of School Children.—The medical examination of children in the Kansas City public schools was inaugurated November 20 by a corps of 50 medical inspectors.

Personal.—Dr. Charles A. Snodgrass, acting health commissioner since the removal of Dr. John H. Simon in July last, was formally elected health officer of St. Louis, November 17. ——Dr. A. J. Detweiler, Columbia, has resigned as bacteriologist of the State Board of Health and expects to locate in Hannibal.——Dr. and Mrs. Joseph W. Howard, Kansas City, have returned from a visit to the East.

MONTANA.

New Hospital.—It is announced that John Manning will soon erect a hospital building to cost $9,000 at Boulder Hot Springs.

Diphtheria.—There are no new diphtheria cases reported in Anaconda, and only about 20 cases have been reported since the disease made its appearance in the city a few weeks ago. Strict quarantine and disinfection have been observed.

Personal.—Dr. George H. Putney, Missoula, has received an appointment from the Panama commission and has left for his post of duty at Colon.——Dr. Gowan Ferguson, Great Falls, was operated on for abscess of the liver at Rochester, Minn., recently.

Physician Loses Suit.—In the case of William Barbour vs. Dr. James L. Jones, Dillon, for $300 damages alleged to have been suffered by reason of the loss of his wife's services for six months caused by her inability to attend to household duties, the jury returned a verdict in favor of the plaintiff for $50.

NEBRASKA.

Hospital Rebuilt.—The work of reconstruction of the old west wing at the Nebraska State Hospital, Norfolk, into a cottage for the accommodation of more patients has commenced, and the work will be completed early in the summer. The new cottage will cost about $21,000 and will accommodate 50 patients.

Personal.—Dr. Emma C. Robbins, third assistant physician at the Hastings State Asylum, has resigned.——Dr. Robley C. Harris, Sidney, has resigned as receiver of the United States Land Office.——Dr. and Mrs. J. C. Agee, Valley, have moved to Nevada.——Dr. G. W. Strough, Barneston, has been appointed division surgeon of the Union Pacific Railroad.——Dr. Philip H. Metz, Humphrey, has been appointed district surgeon and physician for the Union Pacific Railroad.

Diphtheria.—The South Ward school, Aurora, was closed recently and fumigated on account of diphtheria.——Dr. H. Winnett Orr, Lincoln, who has studied the progress of diphtheria in that city and the use of quarantine methods and antitoxin, asserts that the use of antitoxin has reduced the death rate from 40 per cent. to 2 per cent. or less. He estimates the total number of cases during the fall months at 150 and states that 33 cases were quarantined during October.—— In Benson 12 cases have been reported and the public schools have been closed.——The board of health and school board of Beatrice have decided to close the South school for fumigation on account of diphtheria.

NEW HAMPSHIRE.

Epidemic of Scabies.—An epidemic of what is called the old-fashioned "army itch" is prevalent in Nashua. It is estimated that there are 500 cases in the city.

Hospital Notes.—The Elliot Hospital, Manchester, is to receive $5,000 by the will of Mrs. Angeline B. Cilley to support a free bed.——It is suggested that the new hospital now in process of construction in Exeter, to cost $25,000, be named after Edward Tuck of Paris, who gave $11,000 toward the building fund.

Oppose Contract Medicine.—The Nashua Medical Association on November 27 voted unanimously to stand by the resolution passed some time ago against contract medicine. By the terms of this resolution the members of the association agree not to enter into contracts with lodges, societies, organizations or corporations.

Personal.—Dr. George Cook, Concord, president of the Alpha-Kappa-Kappa fraternity, was given a banquet at Nashville, Tenn., October 26.——Dr. Frank W. Grafton has been elected president of the Concord District Nursing Association.——Dr. Napoleon Matte, Keene, fell while leaving the house of a patient and fractured a bone in the left foot.

NEW JERSEY.

Charitable Bequest.—By the adjudication of the estate of the late Maria T. Wirgman the Cooper Hospital, Camden, receives $124,689.50.

New Hospital.—Mayor Fagan, Jersey City, who broke ground for the new City Hospital September 8, laid the cornerstone of the institution November 1.

Diphtheria.—Diphtheria has again broken out in Millville and it is feared that the schools will have to be closed.——One school in Cranford has been closed on account of diphtheria.

Personal.—Dr. Sylvan G. Bushey, Camden, sustained severe contusions in a fall from a trolley car November 18.——Dr. Joseph B. Shaw, Trenton, has returned after six months' stay in Germany.——Dr. William H. Kensinger, Camden, has been elected a member of the city council.

NEW MEXICO.

Personal.—Dr. William J. Hammer, who has been for the past five years first assistant physician at the Loomis Sanitarium, Liberty, N. Y., has been appointed resident medical director at St. Joseph's Sanatorium, Silver City. He will assume the duties of his new position at once.——Dr. Carl Hagen, Silver City, has returned after an absence of four months in Europe.

Albuquerque Protests Against Influx of Incurables.—At a meeting of the associated charities of Albuquerque, November 2, the following resolution was adopted:

Resolved, That the physicians and authorities in other sections be strongly censured for sending health seekers to Albuquerque and New Mexico when they have reached the stage where they are beyond help from climatical advantages or are without sufficient funds to support themselves for a period of at least six months, and that the press be urgently requested to give this resolution the greatest publicity.

NEW YORK.

Hospital Incorporated.—The certificate of incorporation of the City Hospital for Women, Buffalo, has been issued. The concern is capitalized at $1,000.

Bequests.—By the will of the late Dr. DeVille W. Harrington, Buffalo, $3,000 is added to the $2,000 heretofore given for the endowment of the Dr. Harrington lectureship. About $125,000 was also left to the Buffalo General Hospital to endow the Dr. Harrington Hospital for Children.

Gift to Infirmary.—The Ballston Infirmary, situated at Spa, has been presented with $5,000 in 4 per cent. railroad bonds by Harriet N. Carpenter. The interest from these bonds is to be used for the support of this institution, which was presented to the county about three years ago by Horace W. Carpenter of New York City.

State Charity Work.—The third annual meeting of the State Charities Aid Association was held in the United Charities Building, New York City, December 6. George F. Canfield, president of the association, in his report as chairman of the committee on the insane, said that there was a decrease in the number of new cases this year, as compared with last year, and that the increase in the number of committed insane during the year was less than in any year since 1890, the total number being 547, as compared with 927 last year, and an average of 758 a year for the past ten years. The total number of committed insane in state hospitals and private asylums on October 1 was 27,408, of whom all except 985 were in state hospitals. The legislature of last year made provision for increased accommodations at the Institution for the Feebleminded and Epileptic. The Craig Colony for Epileptics was allowed a new building for 200 inmates; the Newark State Custodial Asylum for Women, two cottages, each for 60 inmates, and the Rome State Custodial Asylum, a dormitory building for 100 inmates, and sufficient money to purchase 150 acres of farm land. Dr. Charles Hitchcock was re-elected as one of the members of the board of managers.

New York City.

Tuberculosis Exhibition Moves.—This exhibition, which has been open for two weeks at the American Museum of Natural History, will be moved to Boston, to Philadelphia, and to other larger cities.

Low Death Rate.—The death rate figures for the week ending December 2 were 17.82 per 1,000. This is unusually low for this season of the year. The only increase in mortality was from measles.

Personal.—Dr. George Montgomery Tuttle sailed for Genoa on the *Cretic* December 7.——Dr. Armand L. F. Dufloo was assaulted and robbed while returning from a night call. He lost $70 in money, a gold watch and some valuable papers.

Long Island Open-air Sanitarium.—The trustees of this institution have appealed for funds. The institution will be for the use of Brooklyn and Long Island. In Brooklyn alone it is estimated that there are more than 10,000 consumptives, most

of whom are unable to provide proper treatment. The estimated cost of land, building and equipment is $50,000. It is hoped that it will be self-supporting.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended December 2, 421 cases of tuberculosis, with 174 deaths; 438 cases of measles, with 11 deaths; 285 cases of diphtheria, with 34 deaths; 157 cases of scarlet fever, with 6 deaths; 71 cases of typhoid, with 10 deaths; 15 cases of cerebrospinal meningitis, with 15 deaths; 154 cases of varicella and 1 case of smallpox.

Hospital Anniversary.—The thirty-seventh anniversary of the Presbyterian Hospital has just been celebrated. The annual report shows that during the fiscal year ended September 30 last, 47,933 patients were treated in all departments, an average of 606 per day. This was 13 per cent. more than were cared for during the previous year. Only a very small proportion were able to pay the actual cost of their care. The receipts from donations were $60,439, compared with $42,059 for the previous year. The receipts from legacies were $187,249. The actual cost to the hospital for free treatment during the year was $168,814, and the cost per day per patient was $2.81.

Work of the City Hospitals.—The report of the trustees of Bellevue Hospital and Allied Institutions for the first quarter of this year has been made public. The four hospitals under the management of the trustees admitted 9,173 patients, of whom 6,179 were men and 2,994 were women. Of these patients 4,022 were natives of the United States, 1,854 were born in Ireland, 699 were of Russian birth, and 686 were Germans. Bellevue received 7,210 of these patients; Gouverneur admitted 1,073, of whom more than one-third were Russians; Harlem Hospital admitted 621, and Fordham 269. In the outpatient department of Bellevue 5,581 new cases were treated, there being a total of 18,875 visits and 22,155 prescriptions. Gouverneur had 6,306 new patients, 15,450 visits and 11,930 prescriptions. Harlem's record was 6,591 new patients, 15,450 visits and 15,858 prescriptions, while the figures for Fordham were 659 new patients, 1,395 visits and 1,494 prescriptions. In the psychopathic wards of Bellevue 642 patients were received, of whom 340 were men and 302 women. The record for acute alcoholism shows 7 women and 6 men.

Reform in Hospitals.—A movement to put the hospitals of this city on a business basis, to bring about co-operation, to curtail expenses, and thus greatly to enlarge their powers of usefulness, was inaugurated in March of this year by the Society for the Improvement of the Condition of the Poor. An association of hospital superintendents has been formed, the first of its kind in the city, and at the next meeting it will discuss a list of rules that has been drawn up for the purpose of preventing the waste of hospital supplies. It is claimed that if all the hospitals would co-operate in the matter of business management, $1,000,000 could be saved annually. Among the questions to be discussed are: What plan is best fitted to increase the financial support, individually or jointly? What opportunities are there for decreasing hospital expense? Is a uniform method of accounting desirable among the several hospitals? The sub-committee on economy suggests several means of lessening expense. For example, the use of ether of a cheaper grade, but just as safe; the closed method of inhalation of ether; dressings and bandages to be washed, resterilized and used over in some cases. Much saving can be effected in the use of alcohol. Coal and other commodities could be purchased in cargo by co-operation of several hospitals. There should be one executive officer in an institution who would have authority to enforce the methods to secure a minimum of expenditure. Methods which are demonstrated to have the advantage of simplicity and economy in certain institutions should be adopted in others.

NEVADA.

Damage by Fire.—The offices of Drs. Dunham and Wedelstaedt, Goldfield, were damaged to the extent of $2,500 by fire, November 7.

Census Shows No Hospital.—Nevada is not credited with possessing a single hospital in the special census bureau report on benevolent institutions of the United States for 1904.

Must Have License.—The Supreme Court of the state has upheld the act requiring physicians to take out licenses before they can practice. The case came up on appeal from Nye County, where Dr. Wyerhoist was fined for violation of law and appealed.

Paupers Declared Insane.—Dr. Samuel C. Gibson, superintendent of the Nevada Hospital for Mental Diseases, Reno, makes the charge that many counties of the state, in order to rid themselves of the care of the pauper sick, are declaring these unfortunates to be insane and committing them to the state asylum.

State Board of Health.—The new State Board of Health assembled for organization at Carson City, October 27. The new appointees, Drs. Simeon L. Lee and Berry of Carson City, and Dr. Samuel C. Gibson, Reno, were sworn in. Dr. Berry was elected president; Dr. Gibson, vice-president, and Dr. Lee, secretary. Dr. Gibson was also appointed health officer of Washoe County.

OHIO.

Hospital Staff Reappointed.—The entire staff of the City and Branch hospitals, Cincinnati, was reappointed December 4.

Physicians Ill.—Dr. I. A. Myers, Shelby, is seriously ill with heart disease.——Dr. L. M. Brumbaugh, Dayton, who has been ill with typhoid fever in Salt Lake City, is reported to be improving.——Dr. James B. King, Wyoming, is seriously ill with erysipelas at his home.

New State Hospital Site.—It is stated on reliable authority that the new State Hospital for Tuberculosis will be located about two miles east of Zanesville, on a tract of about 450 acres. The main building will be situated on a hill 1,500 feet above sea level. The land itself will cost about $30,000.

Hospital Opened.—The Memorial Hospital, presented to the city of Piqua by Mrs. Julia Ball Thayer of Keene, N. H., in memory of her brother, the late D. L. C. Ball, is completed, and a short dedicatory service was held November 30. On December 7 the hospital was opened with appropriate ceremonies.

Hirst in Cincinnati.—Dr. Barton Cook Hirst, Philadelphia, addressed the Cincinnati Academy of Medicine December 11 on "The Diagnosis and Treatment of Puerperal Infection." During his stay in Cincinnati Dr. Hirst was the guest of Dr. Magnus A. Tate, and on the afternoon of December 11 Dr. Tate gave a reception.

Epileptics Incurable.—In the annual report of the superintendent of the State Hospital for Epileptics in Gallipolis, he says: "Our experiments more and more confirm the opinion that true epilepsy is essentially incurable." During the history of the institution only six persons have been discharged as recovered. The trustees ask $196,000 for current expenses for the next two years and $129,750 for new buildings, land and other objects.

Liquor License for Patent Medicines.—The internal revenue commissioner has stated that the special stamp tax stamp of retail liquor dealers taken out by any person for the sale of alcoholic compounds labeled as medicines must be issued to him for a fixed place of business and that he can not travel from place to place, selling such compounds in the manner of a peddler and be protected by any special tax stamp. He further says that the revenue laws do not contemplate the peddling of alcoholic liquors, and every person found doing business in that manner becomes involved in a special tax liability at every distinct and separate place at which there is evidence of his having made such sales.

Personal.—Dr. Frank B. Cross, Cincinnati, has arrived in London.——Dr. Edgar Dimond, Cincinnati, sailed for Europe December 9 for a year's study in Vienna.——Dr. Albert F. McVety has been appointed head of the medical department of the Y. M. C. A. of Toledo.——Dr. H. C. Rutter, formerly superintendent of the State Hospital for Epileptics, Gallipolis, has accepted the medical directorship of the department of nervous and mental diseases of the Ohio Sanatorium Company, operating the sanatorium in Columbus and also one in Marion. Dr. Mark A. Brown, editor of the *Lancet-Clinic*, Cincinnati, has had a severe sprain of the ankle.——Dr. Oliver P. Holt is convalescing from appendicitis.——Dr. George Holt has just finished his term of service as resident physician to Christ's Hospital, Cincinnati.

State Association of Medical Teachers.—A meeting has been called to organize a state association of medical teachers at the Great Southern Hotel, Columbus, December 26, at 2 o'clock. The program, which is already prepared, takes up the following subjects: "The Advantages and Purposes of an Organization of the Medical College Teachers of the State," "The Medical College Curriculum—the First Two Years," "The Medical College Curriculum—the Last Two Years," "The Relation of the Literary and Medical College," "Should Advanced Standing as Regards Medical Residence be Given to Graduates of Literary Colleges, or Should Four Years of Medical Residence be Invariably Required?" "What Subjects and How Much Work in Each Should be Required of a Graduate of a Literary College to Gain a Year's Advanced Standing in the Medical Colleges of This State?" "The Cultural Value of the Fundamental Medical Studies," "What Medical Subjects Can be and What Can Not

be Properly and Efficiently Taught in the Literary College," "What Science Work Will be Held by the Board as Satisfying the Requirements of This Resolution? Will the Board Issue Certificates to Students Whose Literary Course Fulfills This Requirement?" and "The Administrative Side of the Question from the Standpoint of the Literary College."

Second District Society Meets.—The second annual meeting of the Second District Medical Society was held in Dayton, November 21. After the transaction of routine business, resolutions were passed urging the incoming governor to appoint medical men on the various boards, who should be as nonpartisan as possible, that the medical profession rather than the politicians might be consulted in matters of state, and that the appointments might be based on personal integrity, professional learning and scientific attainment rather than on political influence. The society also adopted the following resolutions:

Resolved, That the Second Councilor District of the Ohio State Medical Association do hereby heartily endorse the series of articles now being published in *Collier's Weekly* under the title, "The Great American Fraud," exposing the machinations and conspiracies of the patent medicine cures.

Resolved, That we urge on the representatives of the various county societies of this district the advisability of presenting the matter before their respective societies and of devising some active and systematic method of calling the attention of the people, especially that great mass of people who are not reached by a paper like *Collier's*, to this remarkable series of articles and that especial efforts be made to secure the co-operation of the clergy, school teachers, college professors and every person who in any way has to do with public instruction in this campaign against those human vultures, the patent medicine vendors.

The election of officers resulted as follows: President, Dr. John M. Buckingham, Springfield; secretary, Dr. Daniel B. Conklin, Dayton, and treasurer, Dr. Charles L. Minor, Springfield. It was decided to hold the next meeting at Springfield.

PENNSYLVANIA.

Communicable Disease in the State.—During the month of November there were reported to the State Department of Health 4,508 cases of communicable diseases. Many cases were reported from the rural districts on cards provided for this purpose by the department of health.

Bucks County Society Election.—At the meeting of the Bucks County Medical Society, November 1, the following officers were elected for the ensuing year: President, Dr. Richard C. Foulke, New Hope; vice-presidents, Drs. Howard Pursell, Bristol, and Julius T. Vissell, Perkasie; secretary-treasurer and reporter, Dr. Anthony F. Myers, Blooming Glen; censors, Drs. George M. Grim, Ottsville; Alfred E. Fretz, Sellersville, and William R. Cooper, Point Pleasant.

Convicted of Abortion.—Mrs. Minnie Yochim-Salow, Erie, convicted of abortion and manslaughter on November 28, was sentenced to pay a fine of $50 and the costs of prosecution and to undergo imprisonment by separate or solitary confinement at labor in the Western Penitentiary for a period of three years. In the manslaughter case she was sentenced to pay a fine of $100, the costs of prosecution and to undergo imprisonment in the Western Penitentiary by separate or solitary confinement at labor for a period of six years. Judge Walling concluded the penalty by remarking that "abortion can not be tolerated in any form by this court; it is next to murder, and often results in murder."

Vaccination.—Since the State Department of Health was established in May last by the appointment of Commissioner Dixon, 400,000 vaccination certificates have been sent out, and blanks are still being issued through the mails at the average rate of 1,500 per day.——According to the informatios prepared by Attorney-General H. L. Carson for Nathan C. Schaeffer, state superintendent of public instruction, fines can not be imposed on parents or guardians for the non-attendance of pupils who have been excluded from the public schools on the ground that they did not present a certificate of successful vaccination. Concerning the attorney-general's opinion, Dr. Brooks, superintendent of the Philadelphia public schools, said that he did not expect much trouble with the schools there, because of the refusal of parents to have their children vaccinated. Most of the parents, he said, believe in the efficacy of vaccination. In his experience he does not recall half a dozen instances in which the parents refused or even strongly objected to the vaccination of their children.

Beaver County Society Meeting.—The Beaver County Medical Society held its semi-centennial meeting December 7 at the Beaver Valley Country Club. Dr. Paul G. McConnel, New Sheffield, presided, and Dr. Jefferson H. Wilson, Beaver, acted as toastmaster at the banquet. Dr. George Y. Boal, Baden, gave a brief history of the society and detailed the early struggles and trials of the old-time practitioner. The guest of the evening, Dr. James Tyson, Philadelphia, read an interesting paper on the "Ideal General Practitioner." The one essential which he emphasized was that thorough medical education should be founded on a broad and liberal preliminary education. After graduating, the ideal physician should be punctual, careful and painstaking; each case should be made a careful study, thus making his experience more useful to him from time to time. The physician should not neglect the study of general literature, though it should, of course, be subordinate to his medical studies and duties. Dr. Tyson also emphasized the importance of all recent graduates connecting themselves with the local medical societies. Dr. Thomas D. Davis, Pittsburg, made reminiscent remarks of the last half-century and Dr. J. Chris. Lange, Pittsburg, dean of the Western Pennsylvania Medical College, dwelt on the importance of practitioners joining their local medical societies whether they belong to other societies or not.

Philadelphia.

Hospital Acquires Property.—The trustees of the Samaritan Hospital have purchased property on Ontario Street, 90x100 feet, adjoining the hospital, for $3,500.

Donations.—The donations received in cash by the German Hospital on its annual donation day, November 30, amounted to $8,030.75.——The Jefferson Maternity Hospital at its annual donation day, November 30, received $300 in cash.

Free Beds for Consumptives.—At the regular monthly meeting of the board of managers of the Free Hospital for Consumptives, held in Philadelphia November 24, it was decided to increase the free beds at the White Haven Sanitarium to 100.

Hospital Reports.—In the Charity Hospital 280 medical and 191 surgical cases were treated during November.——There were 63 patients under treatment in the Kensington Hospital; 60 operations were performed, and 42 new and 148 old patients were treated in the dispensary.

Maternity Home Dedicated.—The new maternity building of the Presbyterian Hospital was dedicated with appropriate ceremonies November 28. The building is a four-story brick structure and was built with $42,670 received from an anonymous friend of the hospital in 1902.

Blockley Banquet.—The organization of ex-resident physicians of the Philadelphia Hospital held its annual banquet December 7, Dr. Alfred Stengel acting as toastmaster. The following officers were elected for the ensuing year: President, Dr. Edward L. Duer; vice-presidents, Drs. Horatio C. Wood and Roland G. Curtin; secretary, Dr. Edward R. Stone, and chairman of executive committee, Dr. Edward E. Montgomery, all of Philadelphia.

Money for Hospitals.—It is stated that $1,500 was realized from a concert given in the Hotel Walton for the benefit of the Oncologic Hospital, November 21.——By the will of the late Mary Lockery the Philadelphia Home for Incurables receives $5,000.——The executive committee of the annual charity ball, at a meeting November 17, selected the following four institutions as this year's beneficiaries: The University Hospital, Jefferson Hospital, Howard Hospital, and St. Timothy's Hospital.

Dr. Coplin's Advisory Board.—On December 7 Mayor Weaver announced the appointment of the following advisory board of physicians to assist Dr. Coplin in the execution of his plans: Drs. S. Weir Mitchell, John H. Musser, John M. Anders, Hobart A. Hare, J. William White and Henry Leffmann. In addition the mayor, after consultation with Dr. Coplin, appointed the following men a committee to investigate the insane department of the Philadelphia Hospital: Drs. Charles D. Mills, Francis X. Dercum, and William Pickett.

Personal.—Dr. J. William White was summoned to Washington to discuss with President Roosevelt certain phases of football.——Dr. John Marshall was a guest at the second annual banquet of the alumni of the University of Pennsylvania of Northumberland district, held in Sunbury, November 15.——Dr. Samuel S. Stryker was presented with a loving cup at the thirty-fourth anniversary of the West Philadelphia Medical Book Club, December 4.——Dr. Richard C. Norris, president of the Philadelphia County Obstetrical Society, entertained at dinner on December 7, as guest of honor, Dr. Robert L. Dickinson of Brooklyn.

Medical Boat for the Soudan.—Through the efforts of Rev. William M. Anderson a boat has been secured for Dr. Hugh Magill for his medical missionary work in the Egyptian Soudan. The boat is 60 feet long and 15 feet wide and is provided with quarters for the crew at one end and an operating room and physician's quarters at the opposite end. The head-

quarters of the boat will be at "Doliob Hill" station on the Sobat River, a tributary of the White Nile. The boat will leave this station every two months for its first Abyssinian station, 289 miles up the Sobat. Dr. Magill will establish clinics at the different villages and the more serious cases will be brought back to Doliob Hill.

Health Report.—The total number of deaths for the week ended December 9 reached 479, as compared with 463 reported last week, and 453 reported in the corresponding week of last year. The principal causes of death were: Typhoid fever, 13; measles, 4; diphtheria, 14; tuberculosis, 52; cancer, 29; apoplexy, 22; heart disease, 43; acute respiratory disease, 91; gastritis, 6; enteritis, 25; Bright's disease, 37; suicide, 3; accident, 14, and marasmus, 8. There were 291 new cases of contagious disease reported, with 29 deaths, as compared with 194 cases and 31 deaths for the preceding week. Typhoid fever is on the increase. There were 152 new cases, with 13 deaths, as compared with 109 cases and 12 deaths for the previous seven days. The sections of the city supplied with filtered water are practically free from the disease, while the major portion of the cases are reported from localities supplied with "raw" water.

Conditions at Blockley.—Since the appointment of Dr. W. M. Late Coplin as director of the Department of Health and Charities a general investigation of the condition of the Philadelphia Hospital has been inaugurated. An advisory board appointed by the mayor found the hospital in a state of confusion. The report presented by Drs. Dercum, Mills and Pickett shows that the insane department contains over 1,800 patients and the space allotted to this number, if conducted under modern methods, should not accommodate more than 700 or 800. The report further states that the buildings are wholly unhygienic and unsafe. The supplies received are entirely inadequate for the demands made. The supplies are about the same now for 1,800 patients as when the number was only 1,400. The committee further found that the patients were not provided with sufficient clothing. Another very undesirable condition was the intermingling of patients suffering from various diseased conditions, particularly the tuberculous patients. The number of paid medical attendants was also said to be entirely insufficient. It may be stated, the report says, that the number of both physicians and attendants is about one-half or less than one-half the number employed in other institutions of this country where large numbers of the insane are collected. Dr. Coplin in his investigation has learned that the cost (34 cents) of keeping a patient at Blockley a day is less than at any other institution in this country.

TENNESSEE.

Smallpox.—Many cases of smallpox have appeared in Claiborne County.

Personal.—Dr. W. Frank Glenn has been made a member of the Board of Health at Nashville.——Dr. William A. Applegate, Chattanooga, chief surgeon of the Southern Railway, has moved to Washington, D. C.——Dr. Elizabeth C. Kane, Memphis, has returned from the East.

Progress of New College.—A stockholders' meeting of the College of Physicians and Surgeons, Memphis, was held November 26, at which organization was partially effected. Dr. Heber Jones was elected president, and Dr. Edward C. Ellett, vice-president. The trustees of the institution are: Drs. Heber Jones, Edward C. Ellett, John M. Maury, Maximillian Goltman, George G. Buford, Richmond McKinney, and William Krauss.

Wins Damage Suit.—The Supreme Court has decided in favor of the appellant in the damage suit brought by J. M. Burd against Drs. C. G. Gates and J. P. Milbanks, Chattanooga, for alleged malpractice. In the lower court a verdict was returned for the plaintiff in the sum of $500, but this verdict was reversed by the Supreme Court on the ground that "from the evidence of plaintiff himself and plaintiff's witnesses, this court is of the opinion that there is no evidence to sustain the verdict of this case, and the same is therefore reversed."

Annual Meeting of Society.—At the annual meeting of the Rutherford County Medical Society, held in Murfreesboro, December 6, the following officers were elected: Dr. James B. Murfree, Sr., Murfreesboro, president; Dr. James J. Rucker, Overall, vice-president; Dr. Rufus Pitts, Murfreesboro, secretary and treasurer; Dr. Enoch H. Jones, Murfreesboro, censor (re-elected); Dr. V. K. Earthman, Murfreesboro, delegate to the Tennessee State Medical Association, and Dr. Harry C. Rees, Murfreesboro, alternate. Drs. James B. Murfree, Sr., James J. Rucker and Rufus Pitts were appointed a committee to formulate a program for the ensuing year.

TEXAS.

Epidemic of Rabies.—It is said that ten persons in Nacogdoches have been bitten by rabid dogs in the last few days.

Clinic Opened.—The San Antonio Medical and Surgical Clinic has been incorporated without capital stock, with the purpose of "free treatment of the indigent poor and promulgation of medical knowledge to doctors." A building has been secured on Third Avenue and the dispensary was opened for the reception of patients on November 27.

Non-paying Patients.—Many of the county medical associations of the state are now adopting the following resolution:

"We further agree to refuse to give service to any delinquent, who will not pay or make an effort to pay his former physician, without the cash or such security as will insure payment, or the cash at each and every visit for a reasonable length of time; then the physician that is favored must insist that the former physician must be settled with in some manner satisfactory; if the patron refuses to do so, his physician must set him aside by refusing him further service. We do not mean by delinquent to include the poor and needy and invalids who come under the head of charity."

The attorney-general was asked to determine whether or not this agreement was a violation of the trust statute of the state and held that it is not a violation.

UTAH.

In Peril of Fire.—The burning of the public school building at Sunnyside, November 11, placed the adjacent Utah Fuel Company's Hospital in grave jeopardy, but the building was saved by prompt action of the company's fire department.

Personal.—Dr. George W. Middleton, Parowan, has been appointed deputy quarantine physician for Iron County, vice Dr. Donald A. McGregor, on leave of absence.——Dr. Samuel H. Pinkerton, Salt Lake City, is confined to his room from injuries received in a runaway accident.

Epidemic Diseases.—The district schools in Iron County, which were closed about five weeks ago on account of an epidemic of scarlatina, have not been reopened on account of the persistence of the disease. The local board of health has prohibited all children under 15 years of age from attending public gatherings.——It is reported that there are 20 cases of diphtheria at Fountain Green.

VERMONT.

Epidemic in Orphanage.—Seventeen girls in St. Joseph's Orphan Asylum, Burlington, were taken suddenly ill October 26, and three died. At the autopsy it was decided that the death was due to poison, the nature of which has not yet been determined.

Medical Monthly Sold.—The *Vermont Medical Monthly* has been transferred by Dr. H. Edwin Lewis to Drs. Henry C. Tinkham, dean of the medical department of the University of Vermont; Bingham H. Stone, director of the State Laboratory of Hygiene; Charles F. Dalton and H. L. White, secretary of the medical faculty of the University.

Personal.—Dr. Herbert B. Hanson, Barre, arrived at Alexandria, Egypt, November 21 on his way to his station on the Upper Nile.——Dr. Patrick J. McKenzie, Burlington, has been appointed a member of the staff of the Danvers (Mass.) Hospital.——Dr. W. R. Blossom, Rutland, was fined $100 and costs at Rutland, October 9, for killing a deer out of season.

Medical College Opens.—The opening lecture of the medical department of the University of Vermont, Burlington, was given by Dr. Don D. Grout, Waterbury, December 2. Dr. J. H. Lockart, Montreal, has been elected professor of gynecology in place of Dr. A. Lapthorn Smith, Montreal, resigned, and Dr. Samuel E. Maynard has been chosen adjunct professor of gynecology.

VIRGINIA.

Northern Neck Medical Association.—This association met at Warsaw, with Dr. James W. Tankard, Lilian, Northumberland County, president, and Dr. R. O. Long, secretary. Fourteen other physicians, representing every section of the counties of Richmond, Lancaster, Westmoreland and Northumberland, were present.

Students Barred from Hospital.—The committee on relief of the poor has adopted a resolution that the professors and students of the medical colleges of Richmond should be barred from the hospital in the future. It was alleged by the chairman of the committee that the colleges of the city were sending professors and students to the hospital to hold clinics, using the inmates for purposes of demonstration, and that many of these patients objected to the practice.

Personal.—The board of visitors of the University of Virginia has elected Dr. William Mann Randolph, Charlottesville,

clinical instructor in surgery and adjunct professor of surgery, vice Dr. William G. Christian, Charlottesville, resigned.——Dr. Ernest C. Levy, Richmond, has been elected city bacteriologist for a term of two years.——Dr. J. C. Witten, Richmond, has been appointed instructor in minor surgery at the Medical College of Virginia.——Dr. Charles L. Culpepper, Portsmouth, has been appointed local surgeon for the Norfolk, Portsmouth & Newport News Company's system.

WASHINGTON.

Postgraduate Work in Spokane.—The members of the Spokane Medical Society are preparing for a course of lectures and laying out a plan to give to the physicians of the Northern Pacific slope the benefits ordinarily derived from attendance on a postgraduate course in a medical institution.

Personal.—Dr. Yancey G. Blalock, Walla Walla, has been removed from the position of physician to the state penitentiary.——Dr. H. Wellard Howard, Spokane, is ill with typhoid fever.——Dr. William E. Fifield, Tacoma, is critically ill.——Dr. B. H. Yount, formerly of Wilbur, has been released from the State Hospital for the Insane, Medical Lake.

New Antivaccination Tactics.—After making a thorough investigation of the statutes in various states concerning the vaccination of school children the Antivaccination Society of Bellingham ascertained that the cause of questioning the validity of the law would be of no avail, and it is now endeavoring to compel the board of health and the school board to make a literal enforcement of the law.

Hospital News.—A contract has been awarded by the trustees of St. Luke's Hospital, Spokane, for the construction of a maternity wing which will accommodate 50 patients and will represent an outlay of about $50,000.——Dr. Watanabe will open a hospital in Seattle for the exclusive use of Japanese patients.——St. Joseph's Hospital, Aberdeen, is so overcrowded that it has been necessary to convert the dining-room into a ward.——It is proposed to erect a hospital building to accommodate 30 patients in Wenatchee.——A permit has been granted for the erection of one wing to the Deaconess Hospital, Seattle, to cost $16,000 and to accommodate 45 patients.

Medical Men Must Have License.—The Supreme Court of Washington has sustained the conviction of O. V. Lawson of the notorious State Electro-Medical Institute, Seattle, charged with practicing medicine without a license. In its decision the court declares that the unamended sections of the medical act of 1890 and the three sections of that act as amended in 1901 are in full force and constitute the law. The defendant's contention was that, because the amended act had failed to set out in full the old law, if changed, it was unconstitutional. This the Supreme Court declares was once accepted by the court, but is no longer approved. By virtue of this decision the court affirms the ruling of the law of the lower court and declares that the $384 unlawfully obtained from the complainant, Calvin C. Deaton, must be refunded.

WEST VIRGINIA.

Personal.—Dr. Abraham S. Warder, Grafton, is seriously ill with rheumatism.——Dr. Horace M. Brown has been appointed a member of the local board of health of Union.

Smallpox.—The smallpox situation in Wellsburg is now believed to be under control. At present there are 14 cases in the city and under strict quarantine. The disease has appeared in a very mild form and the board of health has done good work in controlling the conditions.

Diphtheria.—More than 20 cases of diphtheria have been reported from Bergholz, Jefferson County. The delay in acknowledging the presence of the disease was due to a difference in opinion between two physicians as to whether or not the condition was diphtheria.——At Byron, where 16 cases were alleged, 5 cases only exist.

WISCONSIN.

Diphtheria.—Diphtheria is reported to be epidemic in the Tenth Ward of La Crosse.——In Kenosha 60 cases of the disease have been reported.——The schools at Iron River have been closed on account of the prevalence of diphtheria.

District Meeting.—The annual meeting of the North Wisconsin District Medical Society was held in Eau Claire, November 22. Dr. Edward H. Grannis, Menominee, was elected president; Dr. Frank W. Epley, New Richmond, vice-president, and Dr. Hiram A. Fulton, Eau Claire, secretary. It was decided to hold the next meeting in Eau Claire, Nov. 3, 1906.

Hospital News.—The late Mrs. Mary C. Stuart, Madison, devised $3,000 in her will for the benefit of the Madison Hospital building fund.——By the will of Julia Gertner, Milwaukee, $500 is bequeathed to the Milwaukee Hospital.——Dr. Edward A. Miller, Clintonville, will open a private hospital in that city.——The new Milwaukee Deaconess Mother House, Milwaukee, was dedicated November 23.

Smallpox.—The public schools and churches in Seymour have been closed and all public meetings have been postponed on account of smallpox, of which 15 cases have been reported.——A hospital ward has been established at the State School for the Blind, Janesville, where 15 cases of smallpox have been reported. The school is still quarantined. Janesville is said to have at least 100 cases of smallpox; 70 houses have been quarantined.

Personal.—Dr. and Mrs. Herman F. Oshwaldt, Oconto Falls, while driving near that village, were injured in a runaway accident. Mrs. Oshwaldt sustained severe injuries about the head and spine and broke three ribs, and Dr. Oshwaldt received some bruises about the head, but was not seriously injured.——Dr. William F. Beutler, Wauwatosa, has been reappointed superintendent of the Asylum for the Chronic Insane, Wauwatosa.——Dr. Hayes, Stanley, has been re-elected physician of Chippewa County.——Dr. and Mrs. M. E. Corbett, Oshkosh, have returned from an eight months' trip abroad.——Dr. William W. Reed, Jefferson, has been elected physician of Jefferson County for the fifteenth time.——Lieutenant Otto B. Bock, assistant surgeon W. N. G., Sheboygan, has resigned.——Dr. William O. St. Sure, Sheboygan, has been re-elected physician of Sheboygan County.——Dr. Gustav A. Kletzsch, Milwaukee, has resigned as president of the Milwaukee County Hospital staff.——The following physicians have been appointed for Milwaukee County: Drs. Albert F. Young, William Lochemes, Louis F. Klemm, J. H. Rohr, Charles A. Faber, A. E. Schmitz and A. C. Sidler.——Dr. John W. Coon has been appointed superintendent of the Milwaukee County Hospital, vice Dr. Ernest C. Grosskopf.

WYOMING.

License Revoked.—The State Board of Medical Examiners has revoked the medical certificate granted Dr. W. R. Wilson, who left Caspar in August last. The cause of the revocation was that Dr. Wilson obtained the certificate through false representations and also on account of unprofessional conduct.

Fire at Hospital.—A barrel of alcohol which was stored in the basement of the Sheridan Branch of the Wyoming General Hospital exploded October 20, fatally burning an employe and setting fire to the hospital. The 19 patients in the institution were removed in safety. The damage to the hospital amounted to about $800.

Personal.—Drs. Harry S. Finney, Rawlins, is ill in Omaha with typhoid fever.——Drs. Henry Stevens and Herman E. McCallam, Laramie, have been appointed local physicians for the Union Pacific System.——Dr. Charles E. Downey, Evanston, has been appointed physician for the Utah Construction Company, and will have charge of all camps operated along the line of the Western Pacific Railroad in Utah and Nevada.

Removed from Office.—At a meeting of the Sheridan County Medical Society, held in Sheridan November 6, Dr. C. R. Halley, president of the society, was, by a unanimous vote of the members present, removed from office for conduct unbecoming an officer of the society. The specific complaint preferred against Dr. Halley was violation of a written agreement signed by several members of the society not to assist nor to consult with the medical director of the Sheridan General Hospital.

State Society Meeting.—The annual meeting of the Wyoming State Medical Society, postponed from September 27-29, was held in Cheyenne, December 7. The following officers were elected: President, Dr. William A. Wyman, Cheyenne; vice-presidents, Drs. Fred Horton, Newcastle, and Ernest A. Croskery, Wheatland; secretary, Dr. George L. Strader, Cheyenne; treasurer, Dr. A. Francis Hoff, Casper; delegate to the American Medical Association, Dr. Henry L. Stevens, Laramie, and alternate, Dr. Alfred C. Godfrey, Lander. The next annual meeting of the society will be held at Casper. The date of the meeting has not yet been set. The entire session was well attended and a large number of Wyoming physicians were elected to membership.

GENERAL.

Yellow Fever in Cuba.—According to *Public Health Reports*, no new cases of yellow fever have been reported since November 26.

Superior and Duluth Society Election.—The Interurban Academy of Medicine, composed of physicians of Superior, Wis., and Duluth, Minn., held its annual meeting November

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15. Dr. Luther A. Potter, Superior, was elected president, Dr. Charles F. McComb, Duluth, vice-president, Dr. Lewis Moody, Superior, secretary and treasurer, and Dr. Louis T. Pare, Duluth, censor.

Big Four Surgeons Meet.—The Association of Big Four Railroad Surgeons held its eleventh annual meeting in Cincinnati November 2. The following officers were elected: Dr. E. Memmen, Bloomington, Ill., president; Dr. F. D. Bain, Kenton, Ohio, vice-president; and Dr. T. C. Kennedy, Shelbyville, Ill., secretary and treasurer. Indianapolis was chosen as the next place of meeting.

Literature on Study of Alcohol Problem.—Dr. T. D. Crothers, Hartford, Conn., desires the names and addresses of medical men who would be pleased to receive from time to time literature on the scientific study of spirit and drug neuroses and the alcoholic problems generally. The objects are to enable authors to reach appreciative readers and to promote co-operative interest in the study.

Epilepsy Prize.—The National Association for the Study of Epilepsy offers a prize of $300 for the best essay on the "Etiology of Epilepsy." Physicians in any country may compete. The award will be made in November, 1906, but all essays submitted must be sent in by Sept. 1, 1906. Details as to conditions governing the award may be obtained from Dr. W. P. Spratling, superintendent of the Craig Colony for Epileptics, Sonyea, N. Y.

Seaboard Medical Association.—The annual meeting of this society just closed resulted in the election of the following officers: Dr. John C. Rodman, Washington, N. C., president; Drs. Benjamin R. Gary, Newport News, Va., first, E. C. Hathaway, Bloxom, N. C., and J. W. Bowden, Accomac, Va., vice-presidents; Dr. W. D. Hassell, Griscom, N. C., treasurer; Dr. Israel Brown, Norfolk, Va., secretary. This society is composed of physicians of Virginia and North Carolina living along the Atlantic seaboard.

Fix Standards for Food Purity.—The committee on food standards of the Association of Official Agricultural Chemists, commissioned by Congress to collaborate with the Secretary of Agriculture in fixing standards for purity for foods, finished its sessions in Boston. It consists of Dr. William Frear of Pennsylvania, Dr. E. H. Jenkins of Connecticut, Dr. M. A. Scorell of Kentucky, Dr. A. H. Weber of Ohio and Dr. H. W. Wiley of Washington. They discussed meat extracts, peptones, fruits, vegetables, flavoring extracts, edible vegetable oils, salts, teas, coffee, fresh fruit juices, meat, root beer, malt liquors, spirituous liquors, carbonated water, preservatives and colors. Already some standards have been fixed and adopted by many states.

National Association for the Study of Epilepsy.—The following officers were elected for the ensuing year: President, Dr. Max Mailhouse, New Haven, Conn.; vice-presidents, Dr. Everett Flood, Palmer, Mass., and Dr. William F. Drewry, Petersburg, Va.; secretary and treasurer, Dr. James W. Wherry, Dansville, N. Y. Very interesting reports were given of the progress in securing the treatment of epileptics separate from the insane. Many instances in which colonies for epileptics had been put on a self-supporting basis were cited and the general outlook was said to be distinctly encouraging. Emphasis was laid on the emancipation from the idea that the only treatment for epilepay was confinement and the use of bromids. To-day over 20 per cent. of patients are cured.

Cholera in the Philippines.—Chief Quarantine Officer Heiser reports that the total number of cases of cholera in Manila since the beginning of the outbreak is 210, with 183 deaths; the total number in the provinces is 437, with 236 deaths. In regard to the interisland quarantine, he states that in view of the urgent necessity for more frequent communication with the provinces on account of the conditions which were brought about by the recent typhoon, and the fact that the quarantine had been in operation for nearly two months with only 1 case of cholera making its appearance on a vessel undergoing quarantine detention; and, furthermore, since experience with cholera during the past three years has demonstrated that for practical purposes the incubation period of cholera is less than three days, it was decided to reduce the period of quarantine on outgoing interisland vessels from five to three days.

Yellow Fever in Panama.—A case of yellow fever was reported in Panama, November 20. The patient was a Colombian who lived in the San Tomas Hospital, the charity hospital in the city of Panama. According to the official report he was taken sick in that institution, admitted to the ward as a patient on November 11, and died on November 20. This is the third case of yellow fever reported on the Isthmus since November 1, one of which, as previously reported, occurred in Colon. Acting Assistant Surgeon Mohr states that as no steps have been taken by the Panama authorities to stamp out the infection in Bocas del Toro, a quarantine has been enforced against that place by the sanitary department. All non-immunes arriving from Bocas will be placed in detention for five days and the small sailing craft bringing such passengers will be fumigated before being allowed to come alongside the docks.

The End of the Yellow Fever Epidemic.—During the last week of November both New Orleans and Vicksburg reported three new cases.——The Louisiana Board of Health gave Governor Blanchard a report of the epidemic and then the members tendered their resignations. Dr. Charles Chassaignac is mentioned for Dr. Souchon's post as president of the new board. It is recalled that at the close of former epidemics the State Board of Health always has resigned with more or less popular satisfaction. It is reliably reported that the Orleans Parish Medical Society will officially investigate the charges brought by Dr. Joseph Holt against Health Officer Quitman Kohnke of New Orleans.——The Pensacola quarantine was finally abandoned on November 19, and on the same day the city council voted a present of $250 to Dr. F. D. Miller, the city health officer, for his work during the epidemic.——In Texas the Jefferson County Medical Society at Beaumont adopted resolutions of confidence in State Health Officer George R. Tabor. The Texas quarantine was finally raised on November 25. Texas spent $22,000 on its quarantine, of which sum $10,000 stands as a deficiency and $12,000 as the entire appropriation for the state health office for the year Sept. 1, 1905, to Aug. 31, 1906. In consequence, an additional deficiency of $15,000 is to be created to carry on the work of the office until the end of the fiscal year.——In Alabama the Jefferson County Medical Society at Birmingham officially thanks State Health Officer Sanders for his work during the epidemic period.——Dr. John Callon of New Orleans received a silver service as a testimonial from friends and neighbors for his work during the epidemic.——Dr. Heber Jones, health officer at Memphis, has received a subscription of $10,000 for his hard work during the period of the epidemic.——At Havana there seems to be a steady increase in the number of new cases of yellow fever.

American Tuberculosis Exhibition.—This exhibition, of which a report was given last week, page 1820, was a great success; over 10,000 people attended the first week and the educational work has had a great opportunity. The offer of the American Federation of Labor has been met and an arrangement for co-operation by the labor unions is probable. On Friday evening, December 8, with Dr. John H. Huddleston of the Board of Health of New York City in the chair, Dr. S. A. Knopf of New York City told how the teacher can assist in fighting tuberculosis. To a large audience of teachers he related the history of this disease and explained at length how the disease is spread by inhalation, ingestion, inoculation and drop infection. The consumptive should hold his hand before his mouth while coughing, as a consumptive who raises no sputum expels 100,000,000 bacilli in twenty-four hours. The symptoms of consumption were outlined, as it is essential that teachers should be acquainted with them. The predisposition to tuberculosis may be inherited or acquired; alcohol plays a large part in causing a predisposition. Aside from beer, more alcohol is sold in patent medicines than over the bar. There is no less than $200,000,000 worth of patent medicine sold in this country every year. The percentage of alcohol in the more popular patent medicines was shown to range from 15 to 35 or even 40 per cent. A fearful responsibility consequently rests on those who recommend these concoctions to their friends or lend their names for the purpose of advertising, yet even ministers of the Gospel and statesmen are guilty of this offense. It must be understood that while tuberculosis is curable, it is not curable by patent medicines, but by good food, fresh air, rest, and a little medicine, judiciously prescribed by a physician. It is the duty of the teacher to prevent consumption among children, and as a consequence among the next generation. Cleanliness in regard to hands, face and finger nails should be insisted on. In France a few lines giving instruction on these matters are on the outside of public school books. The teacher should always remember not to overtax the mind to the detriment of the physical development. A variety of breathing exercises should be taught, also outdoor singing and where possible swimming lessons. Child labor should be abolished. Neither the tuberculous teacher nor the tuberculous child should be permitted in the schools, but provision should be made for both. Sanatoria should be established. Carnegie recognized the need of the college pro-

fessor in his old age, and some philanthropist might well establish a fund for tuberculous teachers which would pension them or enable them to rest until cured.

CANADA.

Medical Reciprocity with the United Kingdom.—The president of the general medical council, at a meeting recently held in London, England, stated that the effect of the General Laurie amendment (1905) to the British medical act would allow of the provinces of Canada applying for the privilege of medical reciprocity with the United Kingdom. It is expected in England that some, if not all, of the provinces of Canada will extend the same privileges to graduates of the United Kingdom.

Consumption Clinic at the Toronto General Hospital.—Consumptive patients who come to the outdoor department of the Toronto General Hospital will hereafter have the benefits of a special clinic. One of the trustees and another public-spirited citizen have contributed funds to carry on this work. A special nurse has been detailed to visit these patients at their homes and to teach their families how to care for and attend cases of tuberculosis. The clinic will be under the supervision of Professor McPhedran, the chief of the medical staff of the medical faculty of Toronto University.

Toronto Free Hospital for Consumptives.—It is just a little over a year ago that the Toronto Free Hospital for Consumptives, superintended by the National Sanitarium Association, which also conducts the Muskoka hospitals at Gravenhurst, commenced operations. That great interest has been taken in the institution is apparent from the fact that within the space of a year 5,000 persons have registered at the institution, brought there through the illness of friends or from a personal motive. A large addition is now rapidly nearing completion at a cost of $20,000, which will increase the accommodation to between 60 and 70 patients. When this addition is finished accommodation will be provided for a ward for children ranging from 6 to 12 years of age. A citizen of Toronto has recently placed $10,000 at the disposal of the trustees of the institution, and the treasurer, Mr. H. C. Hammond, will erect a cottage at his own expense, at a cost of $5,000.

Hospital News.—A by-law will be submitted to the ratepayers of Hamilton, Ont., in January for the purpose of raising $35,000 to complete the new wing to the general hospital of that city.——The governor-general and Lady Grey visited Montreal December 1 and took part in the opening ceremonies of the new Maternity Hospital of that city.——An additional $5,000 was subscribed to the funds of the Toronto General Hospital during the week ending December 2.——The county council of the County of York, in which the city of Toronto is situated, has been asked by the trustees of the Toronto General Hospital to make a grant to the new hospital, which they will probably do in the near future, seeing that the Toronto General Hospital receives many county patients throughout the year.——In connection with the establishment of the new Alexandra Hospital, Montreal, on a firm financial basis, the committee in charge of finance report that they selected 150 firms of Montreal to whom first to appeal for funds, and that 149 have responded favorably. This is very encouraging to the promoters of the institution, and a new and added zest to the prosecution of the work of collection will most likely result in the accomplishment of the desired end, namely, the raising of $250,000. Of this amount only $130,000 has been collected. The Alexandra Hospital has been erected by arrangement with the city council of Montreal, to accommodate Protestant patients who may be the subject of infectious and contagious diseases.——At the recent regular monthly meeting of the board of trustees of the Winnipeg General Hospital the statistical report for the month of October was presented. It showed that the number of patients treated during that month was 640. The total number of days' stay was 9,507. The number of patients treated from January 1 to November 1 was 3,635. The number of patients in the outdoor departments numbered 440.——Dr. Augusta Stowe-Gullen has been re-elected president of the ladies' board of the Western Hospital, Toronto. This board collected $3,456.80 for the hospital this year up to December 1.

The British Medical Association in Toronto.—The seventy-fourth annual meeting of the British Medical Association will be held at Toronto, Canada, Aug. 21-25, 1906, under the direction of the following officers:

President, Mr. George C. Franklin, Leicester, England; president-elect, Dr. Richard A. Reeve, Toronto; treasurer, Dr. H. Radcliffe Crocker, London, England; orator on medicine, Dr. James Barr; orator on surgery, Sir Victor Horsley.

SECTIONS.

Anatomy and Physiology.—President, Prof. Bertram C. A. Windle, Cork, Ireland. Secretary, Dr. C. B. Shuttleworth, Toronto.
Dermatology.—President, Dr. Norman Walker, Edinburgh, Scotland. Secretary, Dr. D. King Smith, Toronto.
Laryngology and Otology.—President, Dr. J. Dundas Grant, London, England. Secretary, Dr. David J. G. Wishart, Toronto.
Medicine.—President, Sir Thomas Barlow, London, England. Secretary, Dr. Robert D. Rudolf, Toronto.
Obstetrics and Gynecology.—President, Dr. A. H. Freeland, Edinburgh, Scotland. Secretary, Dr. Frederick Fenton, Toronto.
Ophthalmology.—President, Mr. Robert M. Gunn, London, England. Secretary, Dr. James M. Maccallum, Toronto.
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State Medicine.—President, Dr. F. Montizambert, Ottawa. Secretary, Dr. J. Langrill, Hamilton.
Surgery.—President, Prof. Irving H. Cameron, Toronto. Secretary, Dr. H. A. Beatty, Toronto.
Therapeutics.—President, Prof. David W. Finlay, Aberdeen. Secretary, Dr. V. Henderson, Toronto.

ARRANGEMENT COMMITTEES.

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Exhibition Committee.—Chairman, Dr. Arthur J. Johnson, Toronto. Secretary, Dr. T. D. Archbald, Toronto.
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Membership Subcommittee.—Chairman, Dr. R. W. Bruce Smith. Secretary, Dr. W. H. Cronyn (Rosedale).

FOREIGN.

Plague in Africa.—Consul Hollis of Lourenzo Marquez reports an outbreak of plague at Chinde, with several deaths.

Yellow Fever in Peru.—December 7 the steamer *Loa* arrived at Callao from Panama with eleven cases of yellow fever on board.

Berlin Postgraduate Lectures.—The Berlin Docent-Verein announces the next cycle of postgraduate lectures to commence March 1 and continue to March 28, 1906. The list of subjects and other details can be learned by applying to Melzer, Ziegelstrasse 10, Berlin, Germany.

International Congress for Prehistoric Anthropology and Archeology.—The thirteenth international congress devoted to these subjects will convene at Monaco April 16 to 26, 1906. Further information can be obtained on application to M. Henri Hubert, 74, rue Claude-Bernard, Paris, France.

Exhibition for Tropical Medicine.—During the German "Colonial Congress," held at Berlin, in October, an exhibition of tropical medicine attracted much attention. One of the most interesting exhibits was that of the Woman's League for Care of the Sick in the Colonies. It included a model sick room and kitchen for the tropics.

Less Medical Students in Prussia.—During the fiscal year 1903-4 only 426 degrees were conferred on medical students, and only 363 new medical students were enrolled. The increase in the population and the losses in the profession by death or incapacity require an increase of 550 physicians every year to meet the demand, according to the statisticians. The decrease in the number of medical students is making itself felt in a lack of assistants and substitutes, the supply being much below the demand. The ranks of the practicing physicians still show no gaps, owing to the former overcrowding. The lack is in the younger set.

Darmstadt Police Regulation of Quack Ads.—The city of Darmstadt, Germany, has issued orders that impose a minimal penalty of 30 marks ($7.50) for publishing or advertising articles, remedies or methods of treating or preventing disease in human beings which are liable to injure the health, or in regard to which erroneous or misleading statements are made or

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deception practiced. The same penalty is imposed also for treatment by letter without personal examination, and also on those who recommend a *Heilgewerbetreibenden*, that is, a person making a business of the healing art outside of professional circles, by false or misleading statements in regard to his preliminary training, capability or successes.

Plague in China.—Consul-General Sammons, Niuchwang, reports that at a meeting of the consular body, held at the American consulate-general, in that port, immediately after the notice of the existence of the plague there, it was agreed to co-operate in the enforcement of every necessary precaution in stamping out the disease. Steps have been taken to isolate the infected locality and to conduct a careful medical inspection of the inhabitants within the isolated limits. All passes authorizing the owners to take passage on the military train at Niuchwang for the interior have been nullified. No vessels are to be allowed to go up to Liao until further notice. Traffic between Yingkow and Niuchwang is suspended.

Centennial of Paris Medical Society.—The Société Médico-Chirurgicale celebrated, November 20, the hundredth anniversary of its foundation. It was organized in 1805 by Dr. Duchatesu and was called at first the "Confraternelle Médico-Chirurgicale." Membership has always been limited to a certain number, and Desnos, the president, in his address remarked that the society has always been true to its traditions of "work, warm friendship between truly congenial spirits, and solidarity." A banquet followed the anniversary meeting, with a theatrical entertainment and the presentation to each member of an artistic souvenir plaque. An illustration of this souvenir is given, with the description of the celebration, in the *Archives Gén. de Médicine* for November 28.

Study Leave for Officers of the Indian Medical Service.—New regulations have been issued recently with regard to "study leave" for officers of the Indian Medical Service. Extra furlough for study may be granted to officers of the Indian Medical Service on the recommendation of the director general. The period of such leave will be calculated at the rate of one month for each year of service up to a total of twelve months in all during an officer's service. The leave may be taken at any time, but will not be granted more than twice in an officer's service. The minimum period for this leave will be two months and this leave can be combined with any other kind of leave. A sum will be allowed for expenses, the amount depending on the rank of the officer. Study leave will count as service for promotion and pension.

"Leipziger Verband" Engages in Campaign Against Quackery.—The latest news from the German Leipziger Verband ("to promote the economic interests of physicians") is that it has now 18,000 members and rates at more than 8,000,000 marks, about $2,000,000, the increase in the amounts paid by the sickness insurance societies (Krankenkassen) to their medical officers during the last year. This has been accomplished by the direct or indirect backing of the profession organized in this Verband, founded only five years ago. It now announces that a committee has been formed to take up the matter of quackery, and unite with medical and local authorities and local societies to inaugurate extensive and systematic concerted action in a campaign against irregulars. There is already an association for this purpose in Germany, and it is proposed to work in harmony with this organization.

Maternity Work in India.—The Dufferin Fund and Victoria Memorial Scholarship Fund have been presided over by Lady Curzon for nearly seven years, and the work has progressed most satisfactorily. The number of patients attended to at the various women's hospitals has increased considerably and a large number of midwives are under training. The hospitals are being used as training centers and there are now ten more qualified women physicians, seven more assistant surgeons, and 337 more hospital assistants than in 1898. At present 476 women are under medical training apart from dhais and nurses. A fully equipped operating room has been provided in all the hospitals. Under the Victoria Fund, some 286 dhais have been trained and 160 more are undergoing instruction. Only those who know the mortality of childbed in India and the fearful "massacre of the innocents" which is continually going on will recognize to the full the good work which is being done by these two funds.

English-Speaking Meetings in Japanese Medical School.—The *Sei-I-Kwai*, No. 5, contains the address delivered by Dr. L. L. Seaman, before he left Japan, at a meeting of Japanese medical students, at which only English was spoken. Five addresses were read by students, the subjects being "Why We Breathe"; "Use of Stomach"; "What Our Skin Does," and similar themes. Seaman qualified the meeting as "unprecedented in the records of professional instruction—a meeting of the entire body of students in a great professional school, in which all of the proceedings were conducted in a foreign tongue, and these exercises were part of the regular curriculum." These English meetings are held at stated intervals at the Tokio University. Seaman commented on the addresses delivered by the students that they revealed the secret of the absence of disease among the Japanese soldiers, especially the address on the stomach. "Your army and navy management," said he, "did not load the stomachs of your soldiers with food that was unsuited to the climate, and that caused fermentation and irritation in the intestinal tract as was the case in our war with Spain."

Practice of Medicine in Buenos Ayres.—A bill to regulate the practice of medicine in the province of Buenos Ayres has been before the parliament of the Argentine Republic for some time, and has been passed in part with only slight modifications. By this measure medical consultations in pharmacies are forbidden. Advertisements in which a cure of all or certain specified diseases, whether at a stated price or otherwise, is promised, are declared to constitute illegal practice. In the same category will fall statements that a therapeutic agent is of infallible efficacy in one or more diseases. The bill provides that a fine shall be imposed on whomsoever shall, directly or indirectly, contribute to the publication of such advertisement. The obligation of professional secrecy is remitted in special cases in which its observance would be attended with danger to the public health or interfere with the penal laws. Special permission is required for the sale of prophylactic or curative serums, modified toxins or organic liquids intended for the cure of diseases; it is also provided that the preparation of these substances shall be subjected to special supervision.

Prophylaxis of Cholera.—The Prussian authorities have announced that in the recent epidemic of cholera in Germany it was found that a number of cases occurred in workmen engaged in haying or working along the shore without any personal contact with the cases of cholera that had occurred along the infected rivers. This fact suggests that the workmen must have become infected by drinking water from the river at points where the water had become infected by contamination from a fresh case of cholera. It is a question whether the cholera germs can be transported by the river to any distance from the point of contamination. The presumption is that they linger in stagnant bays and backwater nooks along the river banks, where they possibly proliferate. To determine this question the authorities have decreed that whenever a new case suspicious of cholera is discovered on a river boat, a number of quart bottles are to be filled with water drawn from the river above and below the spot where the vessel is lying at the time. The bottles must be packed in ice and dispatched in charge of a responsible person to the nearest "investigation station," after previously informing the station by telegraph of the attending circumstances. The decree is given in full in the *Allg. med. Ct.-Ztg.* for November 25.

The Milk Supply of Calcutta.—The Indian correspondent of the *Lancet* states that a committee of the corporation of Calcutta has recently submitted a report on the milk supply of that city which discloses a horrible state of things. In the majority of cases "the cattle were in a filthy condition and were standing in the offensive-smelling filth, inches deep; their udders were covered with muck; the cattle were packed together so closely that there was no room for them to lie down; the sheds were ill-ventilated, the entrances being blocked by platforms on which the gowalas (cow-men) slept, all the air-holes being closed up with mud bricks. This condition of the cow houses has been existent for years. The health officer suggested that certificates should be granted to those dairymen who conduct their business along proper sanitary lines, but the utter inadequacy of such a proposal is evident from the continued failure of the prosecutions instituted, and the committee has ignored the suggestion and has made recommendations of a drastic character. The most important proposal is to establish municipal cattle sheds provided with every convenience and to rent them at a reasonable sum. The difficulties connected with enforcement of the provisions of the municipal act are so great that the corporation will have to do a great deal in supplying filtered water, filling up insanitary tanks, prosecuting more vigorously, and arranging for more thorough and constant inspection. A large quantity of milk is taken into Calcutta from the suburban areas and examinations of this supply have shown very extensive adulteration. The danger of this is that the gowalas will use any dirty water and do not confine themselves to the filtered town supply.

Koch's Report on His Expedition to Eastern Africa.—The preliminary report published by R. Koch in regard to his scientific researches during his year's stay in German East Africa is published in the *Deutsche med. Wochft.* for November 23. He devoted considerable attention to the prevailing relapsing fever, leprosy and sleeping sickness in man and to coast fever and Texas fever in cattle. In an expedition on the main caravan route none of the three Europeans in the party was affected with the endemic relapsing fever. None of them slept in the shelters provided for the caravans, but sought places to sleep where no one had laid before. This was done to avoid the ticks which harbor the spirochetes causing relapsing fever. He found it impossible to infect cattle, dogs or other animals with the disease by inoculating them with blood from cases of relapsing fever. The only exception was monkeys; all his experimental inoculations of monkeys resulted positively. The tick communicating the disease is the *Ornithodorus moubata Murray.* It lives in the soil in the floor of the native huts and shelters, wherever the ground is not exposed to the rain. The spirochetes are found mostly on the ovaries and in the eggs of the tick. The natives are probably infected during youth and acquire immunity later. None of his 60 native porters contracted the disease, although they slept in the shelters, while 4 out of the 5 servants accompanying the party had the fever. They slept also in the shelters. Koch illustrates the cycle of development of the parasite of Texas fever as he traced it in three different varieties of ticks. Also of the parasite of coast fever, which he found only in adult ticks of a certain variety—*Rhipicephalus australis.* He encountered 4 varieties of tsetse flies, and established that the tsetse disease is communicated by the intermediation of 3 of them, the *Glossina morsitans, pallidipes* and *fusca,* especially the latter. Both males and females bite and can become infected, but the female does not lay eggs. It deposits a single whitish larva which assumes the pupa form in a few hours. From ten to twenty days elapse between the birth of these larvæ, so that the female produces only two or three young in the course of a month. This fact may prove important in prophylaxis of the trypanosoma affections. He established further that not all trypanosomata are capable of infecting the glossina, only those which are in a certain condition. Possibly this condition is encountered in the parasites in wild, not domestic, animals.

Yellow Fever in Central America.—Acting Assistant Surgeon Peters, of the Public Health and Marine-Hospital Service, gives an interesting account in *Public Health Reports* of the yellow-fever situation in Central America. The disease made its appearance in Zacapa during the latter part of June. The infection was introduced from Livingston through natives who were permitted to return to their homes in Zacapa after the outbreak of the fever in Livingston, but was not recognized as yellow fever until August, by which time the infection was thoroughly disseminated throughout the town, there being hardly a house in the place which has not had a case of yellow fever. Dr. Peters was unable to obtain any reliable information as to the number of cases or deaths, but well-informed and reliable residents estimate the number of deaths at about 700. At the time of his visit the public health was fairly good. Only a few cases of yellow fever existed, as the force of the epidemic had spent itself and the available material was practically exhausted. At the time of the outbreak of yellow fever a great number of people left and went to the mountains, leaving only about 3,500 in the place during the height of the fever, and it is these returning and others from the adjoining places who come into Zacapa who are furnishing the material for keeping up the infection. This is the first time yellow fever has ever appeared in Zacapa. Sulphur has been burned on the street corners with the idea of purifying the atmosphere. No attempt has been made to destroy the infection in the place used as a lazaretto during the epidemic. It was simply a thatched shed with the sides inclosed, and was used for treating the poor. It could easily have been burned, as it would be impossible properly to fumigate it. Gualan is situated on a hill, and is about 500 feet above sea level. It has a population of about 1,500. It is on the railroad, 80 miles from Puerto Barrios and 21 miles from Zacapa. The first cases of yellow fever came under observation in August. The yellow-fever patients in the railroad hospital were kept under bars, and every precaution was used to prevent the spread of the infection, no standing water being allowed around the buildings; but in the town itself nothing has been done. Dr. Peters states that one of the foci is in the barracks itself, in which a number of cases of yellow fever have developed and are still developing, no effort being made to destroy the infection. All along the line of the railroad from Puerto Barrios to Zacapa, wherever there is a station, he invariably found the stegomyia present.

LONDON LETTER.

The President of the Royal College of Surgeons on Medical Education.

At a dinner given at the Society of Apothecaries, Mr. Tweedy, the president of the Royal College of Surgeons, in responding for that body, claimed that it would meet any test of efficiency that could be applied. The statistics of the last ten years, he said, showed that the number of students entering the profession in England is declining, and he believes that it will continue to decline. In accordance with the promptings of the general medical council the standard of general education of students has been raised and the multiplicity and severity of the examinations has been increased. He would like to see the wheel turned back a little. Too much is being attempted in the way of examinations. He desires to see steps taken in the direction of simplifications without any sacrifice of efficiency. If some of the restrictions and regulations are relaxed he believes that a better practitioner than is possible under the present conditions would be produced. The student is overtaught and overexamined, so that he has no time to reflect, and to exercise his reason and intellect. The whole system, Mr. Tweedy said, is one of rush and cram. The Society of Apothecaries and the Royal College of Physicians and Surgeons have done their best to resist this encroachment and the mushroom-like growth of universities throughout the land. He believes that medical examinations are best entrusted to professional corporations.

The Prevention of Consumption.

A remarkable meeting at which all classes from the royal family to workmen were represented has been held in support of the scheme to provide sanatorium treatment for the working classes. The Princess Christian of Schleswig-Holstein, president of the national association for the establishment and maintenance of sanatoria for workers suffering from tuberculosis, represented the royal family; representatives of both houses of parliament, a bishop, municipal authorities, and hundreds of labor delegates and members of friendly societies and trade unions, many of whom wore their insignia of office, filled the body of the hall. It was announced that a sanatorium of not too expensive a character was being erected in Kent, where 250 acres of land had been acquired. On the grounds were two farms, where cured consumptives could gradually be trained to resume work. It was pointed out by one speaker that it would be more economic for the friendly societies to prevent and to cure the disease than to take the consequences of it and to pay sick allowances and funeral expenses.

The Dangers of Anthrax.

The danger of working among camel's hair and "low foreign wools" is shown by a case which recently occurred at Bradford. A coroner's jury returned a verdict of death from anthrax of a woman who had been employed as a finisher on camel's hair and low foreign wools. The inquiry showed that though these materials had been "sorted, washed, willowed, carded and combed," the anthrax bacilli had not been removed nor had they lost their vitality. Something more, therefore, should have been done before those working among them could do so safely.

Japan and Medical Practice.

At the meeting of the general medical council Dr. MacAlister, the president, stated that a communication had been received from the government stating that application had been made to his majesty on behalf of the Japanese government, requesting that Japan might be recognized as one of the countries to which the medical act of 1886 applies, thus enabling Japanese doctors to practice in the Straits Settlements as well as in other parts of the British empire. Inquiries have been instituted for the purpose of ascertaining the conditions under which British practitioners are permitted to practice in Japan; should these prove satisfactory and should an order in council be sanctioned, it will fall to the general medical council to consider what medical diplomas granted in Japan shall be recognized for registration in Great Britain.

A Mysterious Epidemic.

At the conference of health officers for London and the neighboring counties Dr. Freemantle, health officer for Hertfordshire, reported that an epidemic simulating cerebrospinal meningitis was first brought to the attention of health officers last January, when several persons, often of the same family, were attacked by a disease presenting symptoms, sometimes resembling those of scarlet fever, sometimes of tuberculosis, sometimes of meningitis, sometimes of influenza, and sometimes of cerebrospinal meningitis. Notes were obtained of 162 cases treated dating back to August, 1904, of which 16 were fatal.

Pharmacology

What Are "Proprietary" Medicines?

There seems to be a decided misunderstanding of the meaning of the term "proprietary" medicine, and before condemning one should realize what this term "proprietary" means. If all proprietary medicines are to be condemned, then the Council on Pharmacy and Chemistry has no cause for existence, for its work is to examine and to pass on such articles.

Proprietary medicines are those which some one owns; those that are the property of some one. Their ownership or proprietorship is held in two ways: (1) By a patent, or (2) by a trade or copyright name.

1. PATENTED MEDICINES. A patented medicine is one on which a patent has been granted. This requires that a full description of the article be filed with the Government, which description can be obtained by anyone for 5 cents by writing to the Patent Office. These are non-secret (patent means open); and the protection lasts for seventeen years. Some of our better preparations were patented, such as antipyrin, sulphonal, lanolin, but the patents have now expired. So long as the patents were in force these preparations were "proprietary medicines." Phenacetin is patented, the patent expiring next March. Until then it will be a "proprietary medicine." Alphozone, acetozone, thiocol, creosotol and other well-known remedies are patented medicines, and therefore proprietary. There is no objection to them, if they are advertised and marketed in an honest way.

2. COPYRIGHTED OR TRADE-NAMED ARTICLES. The vast majority of the preparations on the market in this country come in this class. They are proprietary in that the name given them is owned and controlled by some one. The name is the thing in this case. Nearly, but not quite, all the preparations that are sold under trade names are to be condemned because the composition is secret in character. If the composition is known, and if the remedies are honestly exploited, they are not necessarily to be condemned. One serious objection applies to all copyrighted or trade-names—they are a perpetual monopoly. A patented article becomes public property after seventeen years, but a trade-named article never does.

"Patent medicines" come in this class, the term being used to designate those advertised and sold directly to the public. The name, of course, is a misnomer, for they are not patented medicines. We suggest that the words "patent medicines" be always placed in quotation marks when the proprietaries advertised to the public are meant, so that there may be no misunderstanding. The word "nostrum" means "A medicine, the ingredients of which are kept secret for the purpose of restricting the profits of sale to the inventor or proprietor."—Webster. Hence, all proprietary medicines which are in any way secret come under this category.

Medical Literature "Made in Germany."

Some weeks ago[1] we called attention to a petition that was being circulated among the members of the profession of Germany as a protest against paid write-ups. The following abstract of matter taken from one of our German exchanges refers to the same subject and emphasizes what has been charged for some time, i. e., that paid write-ups are being published in German journals to be re-copied in this country. There seems to have developed the impression that anything "made in Germany" must be all right. The number and variety of mixtures that are simply nostrums that are being imported from Germany, and from France for that matter, should put physicians of this country on their guard, and especially against accepting as truth everything that is published in German journals or because the Germans said it. In the *Zeitft. f. aertzl. Fortbildung*, No. 17, is an article on the subject that should make interesting reading at the present time:

The petition cites as a typical example of the evil, the medical write-ups published on behalf of ———, stating that not only the manufacturers themselves, but their American agent ("an American journalist") have paid out hundreds of dollars for favorable articles on this new product, written by physicians who were not in a position to form a decisive judgment in regard to the curative value of the remedy. A letter from the American agent to a Berlin specialist and his reply are quoted, the condition of "strict secrecy" being explicitly demanded by the latter. The sum asked and paid was 2,000 marks ($500). For other write-ups the manufacturers or their agent have paid out sums ranging from 1,000 to 4,000 marks ($250 to $1,000). These investments have proved profitable, as a purchaser has been found in America who has signed a contract for a large sum—$125,000 it is rumored. An editorial in the *Zeitft. f. aertzl Fortbildung*, No. 17, quotes the above from *Die Post*, with the comment that the medical chambers (Aerztekammer) have too little jurisdiction in such matters to arrest these practices arbitrarily. They will stop only when the medical profession as a whole resolve to repudiate and to expose such practices as extremely injurious to the reputation of the profession, and does everything in its power to combat them. In a later issue, No. 19, the *Zeitft.* states further that the manufacturers of ——— have since written to *Die Post* publicly disclaiming all responsibility for the actions of their American agent. His business affairs are entirely independent, they say, of the business of the home office, and are not under the control of the latter. Consequently, they can not be held responsible for the means he has adopted to further his business aims. The editorial comments that this explanation does not alter the aspect of the case, as the home office has not repudiated nor dismissed the American agent.

1. THE JOURNAL, October 21, p. 1264.

Kansas Against Nostrums.

At its last meeting the Kansas State Medical Society adopted the following resolution, which was offered by Dr. W. H. Graves:

Resolved, That the council of the Kansas Medical Society endorse the action of the national organization in refusing to insert advertisements of secret preparations, and recommend to the editor of the *Journal of the Kansas State Medical Society* that, as fast as present contracts expire, space be refused to such secret preparations.

This resolution was discussed by all present and was adopted unanimously.

Work of Council Indorsed.

The following resolutions were adopted at the December meeting of the Will County (Illinois) Medical Society:

Resolved, That the Will County Medical Society expresses approval of the action of the American Medical Association in establishing the council on Pharmacy and Chemistry.

That this society indorses the work of investigating non-official drugs and medicinal preparations.

That the society gives its hearty support to the educational campaign regarding secret nostrums and commends the good work of THE JOURNAL of the American Medical Association.

F. C. FISHER, Secretary.

At the regular meeting of the Fort Wayne Medical Society (the Medical Society of Allen County), December 5, the following resolution, presented by Dr. M. F. Porter, was passed:

Resolved, That the Fort Wayne Medical Society approves of the appointment of the Council on Pharmacy by the American Medical Association, and of the efforts the members of this council are making to rid the country of those pharmacists and their products, which, while sailing under an ethical banner, are really doing a business alike disgraceful and harmful, and that it also commends the editor of THE JOURNAL of the American Medical Association in the vigorous assistance he is giving this council.

Resolutions Regarding Dr. Billings' Paper.

ALBUQUERQUE, N. M., Dec. 7, 1905.

To the Editor:—I forward herewith a copy of the resolutions passed at the last meeting of the Bernalillo County Medical Society and request that you bring them to the attention of

the profession through THE JOURNAL with the view of securing some concerted action. W. W. SPARGO, M.D.

WHEREAS: Dr. Frank Billings, of Chicago, read before the Portland meeting of the American Medical Association an article entitled "Nostrums," which was printed in THE JOURNAL of the American Medical Association, a publication owned by the medical profession, and for the use and information of the profession; and

WHEREAS: One at least of the corporations manufacturing a compound drug and offering it to the profession and public under a copyrighted name, not representing the ingredients, has threatened the journals issued by the various state societies with suits for libel if the said journals reprinted Dr. Billings' article; and

WHEREAS: Many of these corporations alluded to in Dr. Billings' article have landed themselves together under a distinctive name and are commonly accredited with controlling many of the medical journals published, but not including those owned by the State Societies; and.

WHEREAS: There are many manufacturing drug companies who are willing and do publish the ingredients of their manufactured articles; therefore, be it

Resolved, That the members of the Bernalillo County Medical Society, feeling that as physicians they have a right to know the composition of all drugs used by them, refrain hereafter from using such articles as do not contain on the label attached the ingredients of which they are composed; and that they dispense or prescribe the products of such houses as comply with the above requirement; and,

Resolved, That the members of said society deny the right of any drug manufacturing concern to prevent any legitimate investigation into the composition of their manufactured articles; and that the Board of Trustees of the American Medical Association shall be requested by the secretary of this society to take such steps as shall lead to a concerted action of the medical profession, calling on the government and congress to enact such laws as will make impartial analyses of such articles compulsory; and,

Resolved, That the said society will co-operate with the state society in maintaining the right of the journal of this state society to publish any legitimate professional information; and be it further

Resolved, That a copy of these resolutions be forwarded to THE JOURNAL of the American Medical Association, be published in the *Journal of the Medical Society of New Mexico*, and also be furnished to the retail druggists of this city.

DUFFY'S PURE MALT WHISKEY.

Fraudulent Testimonials.

We have repeatedly asserted that there is no dividing line between nostrums advertised to the public in newspapers—"patent medicines"—and those advertised to the medical profession—"proprietaries." Many are advertised both to the public and to the profession openly—because there are medical journals that will take such advertisements. It is not our intention to expose the fraudulent character of so-called "patent medicines" except incidentally, until the fraudulent character of the "ethical" proprietary business has been published to the profession. We refer to Duffy's Pure Malt Whiskey this week because it is among the nostrums advertised to physicians.

We know of no more fraudulent and extravagant claims for any "patent medicine" than those which the proprietors of Duffy's Pure Malt Whiskey make in their advertisements. Their claims for it as a health restorer equal those made for peruna, liquozone, wine of cardui and similar nostrums.

But "Duffy's Pure Malt Whiskey" is advertised in medical journals!

A Sample Testimonial.

Some months ago a big display advertisement of Duffy's appeared in the newspapers. It was accompanied by a photograph of an old lady and by the old lady's testimonial. Here is the testimonial, with some of the comments on it that appeared in the "ad.":

"A DEAR OLD SOUL ACTIVE AND HAPPY AT 106.

"Mrs. Nancy Tigue, of Lafayette, Ind., Although in Her 106th Year, Says:

"'I Really Don't Feel Like I'm a Day Over 60, Thanks to Duffy's Pure Malt Whiskey, Which Is the Real Secret of My Great Age, Health, Vigor and Content.'

"Mrs. Tigue Is Blessed with All Her Faculties and Does Exquisite Fancy Work Without Glasses. She is as Spry as Many Women Half Her Age.

"With the Help of the Invigorating and Life-Giving Powers of This Wonderful Medicine Mrs. Tigue says She Expects to Live Twenty-five Years Longer.

"'I will be one hundred and six years old,' writes Mrs. Tigue, "on the fifteenth of March, and really I don't feel like I am a day over sixty, thanks to Duffy's Pure Malt Whiskey. Friends say I look younger and stronger than I did 30 years ago. I have always enjoyed health and been able to eat and sleep well, though I have been a hard worker. Even now I wait on myself and am busy on a pretty piece of fancy work. My sight is so good I don't even use glasses. Am still blest with all my faculties. The real secret of my great age, health, vigor and content is the fact that for many years I have taken regularly a little Duffy's Pure Malt Whiskey, and it has been my only medicine. It's wonderful how quickly it revives and keeps up one's strength and spirits. I am certain I'd have died long ago had it not been for my faithful old friend 'Duffy's,' August 10, 1904.'

"Duffy's Pure Malt Whiskey
"Is the Comfort and Support of Old Age.

"The sincere and grateful tribute of Mrs. Tigue to the invigorating and life-prolonging powers of Duffy's Pure Malt Whiskey is one of the most remarkable and convincing on record. She sews, reads and is dependent upon no one for the little services and attentions of old age. Mrs. Tigue's memory is perfect, and her eyes sparkle with interest as she quaintly recalls events that have gone down into history of the past hundred years. Instead of pining, as many women half her age, she is firm in the belief that with the comforting and strengthening assistance of Duffy's Pure Malt Whiskey she will live another quarter of a century."

These statements were so remarkable that we wrote to two physicians of Lafayette for facts. It seems that one of the Indianapolis newspapers published an item regarding Mrs. Tigue having reached her one hundred and fifth birthday, and evidently this was the cue for the Duffy exploiters.

The following letter is from Dr. George F. Keiper, one of the councilors of the Indiana State Medical Association. As the eye and ear surgeon to St. Elizabeth Hospital he visited that institution every day, which explains his personal knowledge of the case.

LAFAYETTE, IND., Nov. 18, 1905.

My Dear Doctor:—Yours of the 14th has been received; also a copy of an advertisement published in the newspapers last winter, which contains, among other matter, a photograph of Mrs. Nancy Tigue, and also, among other statements, the following: "Mrs. Nancy Tigue, of Lafayette, Ind. Although in Her 106th Year, Says: 'I Really Don't Feel Like I'm a Day Over 60, Thanks to Duffy's Pure Malt Whiskey, Which is the Real Secret of My Great Age, Health, Vigor and Content.'".

I have had several interviews concerning Mrs. Tigue and this testimonial. I have known the old lady for a number of years and, to my certain knowledge, she has never used alcoholics in any form. I used to see her every day at St. Elizabeth's Hospital. I interviewed Sister Bernardi, the Sister Superior of St. Elizabeth's Hospital, where Mrs. Tigue was for a number of years. The Sister Superior says that Mrs. Tigue never took any whiskey while there. I further asked Sister Benigna and Sister Aloysia and they both denied that she used Duffy's Malt Whiskey.

For the past three or four years Mrs. Tigue has been at St. Anthony's Home for the Aged, going there from St. Elizabeth's Hospital when the Home was opened. This Home is a branch of St. Elizabeth's Hospital. Sister Frances is in charge of the Home, and she told me that Mrs. Tigue has never taken a drop of any kind of whiskey while there.

I also saw her son, Mr. Michael Tigue. The advertisement of Duffy's Malt Whiskey filled him with indignation passing all bounds. He corroborated all that the Sisters told me, and he further told me that when this advertisement appeared, he had some sharp correspondence with the Duffy people.

The photograph used in the advertisement was obtained by a party who said he wanted to use it in one of the Indianapolis papers. Of course, misrepresentation was resorted to.

Concerning the testimonial: The man who obtained it, went to Mrs. Tigue and requested her to sign a testimonial concerning Duffy's Malt Whiskey, but she said she never used it, and the agent was told to see her son. The man then saw Mr. Michael Tigue, who refused to grant his request. The agent then took a notary public to the Home and represented to Mrs. Tigue that her son told her to sign the testimonial. Very truly yours,

GEORGE F. KEIPER.

Dr. W. W. Vinnedge is another Lafayette physician to whom we wrote. His letter we quote:

LAFAYETTE, Nov. 21, 1905.

Dear Doctor:—In response to your inquiries as to Mrs. Nancy Tigue of Lafayette, I beg to say that I investigated her case as to Duffy's Malt Whiskey somewhat less than a year ago. . . . This morning I found Mr. Michael Tigue, single, stone-cutter, ex-township trustee, 58 years old, son of Mrs. Nancy Tigue, and . . . he dictated and signed the enclosed statement. . . . You have been misinformed in one particular, Mrs. Tigue does not live in a home for feeble-minded, but in the Old People's Home, under the care of the Poor Franciscan Sisters. I visited her there twice in the early part of the past summer, saw her sitting by her bed fully dressed, saw her led across the floor by a Sister with a hand under her (Mrs. T's.) elbow, and she appeared to be nearly blind, as the Sister said. The old lady, however, is fairly intelligent, and while very senile in appearance talked understandingly. She and the Sister assured me that she drank no intoxicating drinks at all, and never had done so, and from their manner and words I saw that they thought the report ridiculous. I am sure that the old lady knows nothing at all about Duffy's Malt Whiskey.

As to the testimonial given by the old lady. About a year ago a young man from Indianapolis, a newspaper man, got off the train here one morning and called on Mr. Mike Tigue, and asked for a testimonial. Mr. Tigue gave him permission to see his mother, but refused the testimonial. The enterprising young man hired a horse and buggy from a livery stable, and taking Mr. Oscar Campbell, notary, Lafayette, drove out to the Old People's Home, about two miles, and saw the old lady, led her to think that her son Michael had sent them, that he wished her to sign the testimonial, which she did by making her mark, and without having a clear idea of the contents of her statement, and without having any idea at all of what use was to be made of it. You know the balance.

Later, as I am informed, Mr. Michael Tigue wrote, or caused his attorneys, Messrs. Kumler & Gaylord, Lafayette, Ind., to write to the Duffy Malt Company protesting against the use of his mother's name, forbidding it. Finally, he told me to-day, the firm quit publishing her picture and statement in the newspapers, but it is in press and will appear in Duffy's book soon; they could not "cut it out" of that at this stage. If you wish any additional information and will indicate what it is, I will be very pleased to try to get it and to help along the good work in which you are engaged.

Very truly yours, W. W. VINNEDGE.

The following is the statement referred to, made by Mr. Tigue:

V 45 1905

LAFAYETTE, Nov. 21, 1905.

To Whom it May Concern:—I am the son of Mrs. Nancy Tigue, who is now an inmate of the St. Anthony's Home, and I am 56 years old. My mother is one hundred and five years old, was born in Ireland. Our home is, or was, 413 S. 1st St., Lafayette. Mother is almost blind, and she has been cared for by the Sisters about four years—one year at the Old People's Home. My mother never drank any intoxicating drinks at all. She does not know what Duffy's Malt Whiskey is. She was imposed on in order to obtain the advertisement of Duffy's Malt Whiskey, being nearly blind was influenced to sign a false affidavit by Duffy's solicitor, which was published without our knowledge or consent. MICHAEL G. TIGUE.

Still Duffy's Malt Whiskey must be "ethical," for is it not advertised in reputable medical journals!!

Centenarian Feels Like a Girl.

A "companion piece" to the above is the picture and testimonial of Mrs. Louisa Cox of Harrington, Maine. This is still appearing in the newspapers, or was a month ago. Here is the testimonial as it appeared in the newspapers:

HARRINGTON, ME., May 20, 1904.

"*Gentlemen:*—I am 105 years old. I am well, without a pain or ache. I sleep as well as I did when I was a girl. I use your whiskey and like it very much. Duffy's Pure Malt Whiskey is the only medicine I use. I get water from the well, bring in wood, and do my housework. MRS. LOUISA COX."

The advertisement is accompanied with the usual extravagant claims and statement, but we have only space for one quotation. In this advertisement we are told that:

"There are 4,000 men and women in this country alone who have passed the hundred year mark, and nearly every one of them has publicly acknowledged that he or she owes health, strength, continued use of all the faculties, and extreme old age to Duffy's Pure Malt Whiskey, the great cure and preventive of disease, the true elixir of life."

Four thousand people in this country over 100 years old have publicly acknowledged that they use Duffy's Malt Whiskey!! Think of this statement and then realize that Duffy's Malt Whisky must be an "ethical" preparation, for is it not advertised in reputable medical journals?

We wrote to Dr. E. A. White, Columbus Falls, Maine, and asked him to investigate the case. Dr. White replies as follows:

COLUMBIA FALLS, ME., Nov. 11, 1905.

Dear Doctor:—In accordance with your request I went to the home of Mrs. Lovisa Cox (not Louisa as appears in the advertisement). She tells me she will be 107 the 12th of January, 1906. She says she never took Duffy's Pure Malt Whiskey or any other whiskey in her life. Never took but very little medicine any way. Her daughter, Eliza A. Shaw, with whom the old lady lives verified the statement. You will notice a statement from her on the back of your enclosed letter. She knows about the advertisement which has appeared in the *Bangor Commercial*, a paper printed in Bangor, Maine. She has been interviewed a number of times about the matter and always denied it. Call's it a lie. The advertisement is in the *Bangor Commercial* now, same as the one you sent me. An article came out in the *Bangor News*, another paper printed in Bangor, Maine, denying the statement of the old lady's appearing in ad. of the *Commercial*. The old lady can neither read nor write, so if she made her cross (x) under any statement she would have no way of knowing really what it contained, thereby giving some unscrupulous person a chance to deceive her. I do not think this was even done. I do not charge you anything for my trouble; am only too glad to help you to unearth such frauds. Let me know if you need anything more. Yours, E. A. WHITE.

On the back of the letter to Dr. White is written with pencil the following:

This is to certify that I, Eliza A. Shaw, daughter of Mrs. Lovisa Cox, know that my mother never has taken Duffy's Pure Malt Whiskey, or any other whiskey for medicine.

Witness: SUSIE A. SHAW. ELIZA A. SHAW.

A letter to the postmaster of Harrington, Maine, brought the following reply:

HARRINGTON, ME., Nov. 13, 1905.

Dear Sir:—Relative to enclosed ad. would say that party in question has never used liquor in any form and can secure her affidavit to that effect if you care to bear the expense. Party lives some four miles from town: it would be necessary to drive out in order to interview her. Yours, WM. R. DYER, P. M.

Those who want further information regarding the character of the Duffy testimonials should refer to the article in *Collier's Weekly*.

For the wonderful virtues of Duffy's Malt Whiskey, as a medicine, we respectfully refer to the advertisements appearing in the newspapers of the country.

The advertisement of Duffy's Malt Whiskey is appearing in some well-thought-of medical publications. Would it not be well for those physicians who are subscribing to and supporting such publications to write to the publishers regarding this insult to their intelligence? Of course, the cancellation of a few subscriptions does not compare with the amount received from a several hundred dollar advertising contract, and the publishers who have only the financial end in view will not be materially impressed at first. Still, every little counts, and if the profession will take up this matter it will surely have some effect.

Correspondence

Fees for Life Insurance Examinations.

SKIPPACK, PA., Nov. 29, 1905.

To the Editor:—In the light of and with the knowledge daily brought before us of "high financiering" as exemplified in the old-line life insurance companies of New York, with more to come, it would seem that any physician who makes an examination for a fee of three dollars or less is, to say the least, "easy." Some men have refused to examine an applicant for such a fee, only to be sarcastically informed by the agent that there were "others," not only waiting but anxious. Unfortunately he was telling the truth. We are cheap. Medical societies should take this matter up.

J. NEWTON HUNSBERGER.

The Burning of the Books.

CHICAGO, Nov. 24, 1905.

To the Editor:—No species of vandalism has ever aroused such universal execration as the wanton destruction of literature and records, whether accumulated for that purpose or captured with other acquisitions of victory. In modern times the easy production and multiplication of books has brought the dignity and presumptive value of the book to a low ebb; and, while the ancient tome had, from its very existence, a modicum of permanent value, the book of to-day may be valueless and a mere incumbrance, either because of its primary inherent worthlessness, or its worthlessness in a particular form, or on account of the enormous edition, or an edition made incomplete by abridgement, by faulty translation, by reproduction on poor paper, in bad print or with other defects. To the bibliophile any book within his horizon has a certain bibliographic, literary and commercial value, based on fluctuating interest and fluctuating supply and demand. To the student a book is valuable for the data or the literature which it contains. To the antiquarian and second-hand book dealer a book is worth just so much as he can get for it. To the paper maker all books are valued by the pound or ton.

In modern times the great public library has come to be a hopper, into which the private libraries of declining families, dissolving households and defunct societies naturally tend, and as a result the store rooms of the principal libraries are flooded with an unsorted mass of books, magazines and manuscripts. The value of these contributions is not great, yet each wagon load contains a few volumes desirable for exchange and one or two worth binding and preservation, and every few months a rare book is added to the archives of history.

We may almost condone the affront which is offered our regard for the book when the management of these great libraries stealthily and covertly disposes of carloads of material to the paper maker.

A now prominent scholar and author who, thirty years ago, published a masterful reflection of his instructor's theories and conceptions in a handsome book has, during the past twenty years, gradually bought up and consumed in his furnace and fireplace every obtainable copy. He has slowly raised its price from two cents a pound to twenty-eight dollars and a half a copy, and from taxing the capacity of his furnace with the annual consumption he now has scanty material for folded lamplighters on his mantelpiece. We may doubt whether the silent influence of the printed page, even of the full edition, was as subverting to public morals as the active bid of the increasing price is to systematic larceny from library shelves.

In spite of the aggravation to which the baited librarian and sometimes the unhappy author yield, it is painful for us to see the printed page consumed. We turn away from the bonfire and the paper mill with a pang and look on the ruffled books stripped of their covers with regret. Nevertheless there is a book which deserves this fate. It merits the worst form of destruction; its pernicious influence is more deadly than all the bacteria and contagion which its greasy covers and soiled pages can harbor. It deals death and gives complacency to the widespread destruction of adults, youths and infants. There are few epidemics that destroy as many as the endemic of this dirty book. If the boards of health are called

on to arrest epidemics; if they may use police power to abate nuisances destructive of health or life, this power and this function ought to be called in play to exterminate this death-dealing book.

The antiquated text-book of medicine is a positive and widespread danger to society. It perpetuates and makes active the baleful influence of our medical forbears. This influence is greater the greater the authority and the more permanent the position of the author. If a man has done his work before he is 50 and ought then to step aside and give place to the young, the medical text-book has outlived its usefulness in one-tenth that time. The libraries of sixty thousand physicians are encumbered, their practices vitiated and their patients put to unnecessary suffering and danger by the sixty thousand antiquated Oslers. How boldly the vanquished physician standing at the bedside of his unfortunate patient quotes, to his complacency and the palliation of his defeat, the dictum of an Osler of the edition of 1894, and with what humility, not to say astonishment, would he read the reversal of that opinion in the last edition! The antiquated text-books of medicine of ten years ago, especially those that treat of the care of infants and the treatment of genito-urinary diseases and general medicine, are now supporting the pernicious practices of an army of physicians, in whose hands they cause uncalled-for and immeasurable suffering and no small mortality. These old books, however, maintain an unquestioned dignity and respectability, while the automobile and cigarette call forth columns of malignant abuse, interminable persecution and drastic legislation. Single lines have been followed by a weeping and limping procession, which the repeated recantation of the author in subsequent editions and the earnest and dramatic teaching in class room, lecture hall and journal has been unable to arrest. The curse of modern medical book selling is the antiquated text-book. The book agent foists his wares on the indulgent physician who scarcely turns in his last payment on a good book before it is superceded by another edition made necessary by the rapid advance in medical diagnosis and treatment. Since we have referred to Osler, let us take as illustrations the diagnosis and treatment of any of the diseases of the abdominal viscera in the last edition and the edition of ten years ago. Could there be a greater contrast between the teachings of any medical sect and that of rational medicine than between Osler's own account of the non-malignant diseases of the stomach, the diseases of the biliary apparatus, dysentery and appendicitis[1] in these two editions? Nevertheless we hear the Osler of ten years ago quoted ex cathedra in every medical society and often at the bedside with no appreciation of its melancholy import. Should an attorney quote the decision of a court which had for ten years been reversed, he would be sharply corrected by the opposing counsel. The patient's advocate, the physician, meets, unfortunately, a silent plaintiff in a court of unquestioned justice. When he meets defeat he departs, often unconscious of his remissions, and even the autopsy fails by its rarity and novelty to jolt the complacent and luck-trusting practitioner into the serious consideration of the rapid advance of his art.

104 East Fortieth Street. BAYARD HOLMES, M.D.

Acetosone Solutions.

NEW HAVEN, CONN., Dec. 3, 1905.

To the Editor:—I am anxious to learn if any one else has had any experience in the use of acetozone solutions for injection into the spinal canal after lumbar puncture in cerebro-spinal meningitis. I have used it recently with apparently good results in two severe and protracted cases. In both these cases puncture had already been required to relieve urgent pressure symptoms, but, while successful in this respect, the procedure had been without effect on the temperature. After the acetozone injections this remained nearly normal. A weak solution (5 grains to quart) was used, the patients being aged 7 and 4 respectively. In the first case 30 c.c. of fluid were withdrawn and 15 c.c. of the acetozone solution injected; in the second case 35 c.c. were withdrawn and 15 c.c. injected. In the acute fulminating cases, in which death takes place before the formation of much fluid, such injection would be difficult and probably ineffectual. Probably stronger solutions can be used. LOUIS S. DE FOREST.

1. "The medical treatment of appendicitis can be expressed in three words—rest, opium and enemata."

Is the Bituminous Coal Miner Immune from Tubercular Infection While Actively Engaged in His Occupation?

DUQUOIN, ILL., Nov. 21, 1905.

To the Editor:—After an experience of 25 years in one of the largest coal mining towns in southern Illinois, and during this time having under my observation from 700 to 1,200 coal miners; and after careful enquiry among the oldest miners in this locality as to the number of coal miners that have been infected with this dreadful disease, I have been forced to the conclusion that bituminous coal miners, while actively engaged in their occupation, are practically immune from tubercular infection.

About seven years ago I commenced the treatment of whooping cough by sending the patient down in the mines immediately after the miners had fired a shot; having the patient inhale the gas and powder smoke for one and a half to two hours at a time. I found that one or two sittings was sufficient to effect a cure in from four to six days, and without other medicine.

This was followed up until I have on my records from 75 to 100 cases, ranging in age from 3 months to 27 years. This treatment has passed so far as my experience goes, from the experimental stage to the stage of confirmation. It is so successful and is now so well known in this locality, the miners take their children so affected into the mines, without consulting a physician, and always with the happiest results.

In June, 1905, I obtained from the coal operators "Blue Book," and from a United States medical directory the addresses of 600 physicians practicing in the coal mining towns of Illinois, Indiana, Ohio, Pennsylvania and West Virginia. I carefully selected the names of those who had practiced not less than 10 years, and sent to them a circular letter containing four questions, and enclosing with each a stamped, addressed envelope for reply, in order that I might gather from their experience some statistics on the liability of coal miners to tubercular infection, while actively engaged in their occupation. The following is the text of the body of the letter and the four questions:

> *Dear Doctor:*—In order to obtain statistical information from those of my professional brothers who can speak from experience and observation concerning the frequency and liability of infectious tuberculosis among coal miners as a class, I respectfully submit the following questions:
>
> 1. How much professional experience have you had among coal miners?
>
> 2. About what per cent. of all coal miners who have come under your professional observation have had infectious tuberculosis?
>
> 3. About what per cent. of those who, of your own knowledge, had been exposed to tuberculosis have been infected?
>
> 4. Taking into consideration their usual habits of life, together with their daily exposure, do you consider coal miners, as a class, immune from tubercular infection while actively engaged in their occupation?

As a result of these inquiries I have thus far received in reply over two hundred letters. Of this number about 75 per cent. give as their experience and observation, that during active service in his occupation the bituminous coal miner is immune, wholly or in part. M. C. CARR, M.D.

The Psychopathic Manifestations of the Non-Insane Psychoneuroses.

NEW YORK, Dec. 8, 1905.

To the Editor:—In the valuable article under the above title in THE JOURNAL, December 2, Dr. John Punton makes some timely remarks on inexact nomenclature. I wish to add some suggestions: As physicians giving the word in our own lan-

guage, we say disease of the mind and not disease of the soul; German physicians say *Geisteskrankheit*, which is also distinctly disease of the mind in distinction from *Seelenkrankheit*, disease of the soul; the French say likewise disease of the mind, namely, *frénesie*, and not disease of the soul, which would be *maladie de l'âme*, and the Greeks, like Frenchmen and Germans, in their own language call it phrenopathia, when they mean the medical term, not psychopathia; they do not say psychocomion, but phrenocomion for lunatic asylum. At this occasion no criticism is intended, but only statement of facts. Another fact is that psychosis in Greek means animation, infatuation, inspiration, but never mental derangement; the correct word for alienation of the mind is phrenitis, an excellent term. It is to be assumed that everybody knows by this time that the suffix "itis" does not necessarily mean inflammation. Phrenitis means distinctly a morbid affection of the mind. The new term suggested by Dr. Punton, "psychosomatasthenia," is rather Lexicon-Greek; phrenosomatitis would express the same meaning, but I would not dare to offer it for adoption before consulting Greek friends, if it would be acceptable. A. ROSS.

Marriages

DAVID M. RANK, M.D., to Miss Susie F. Herr, both of Annville, Pa., November 28.

JOHN LEHR, M.D., Lykens, Pa., to Miss Laura B. Hehring of Reading, Pa., November 29.

RAYMOND G. OLSON, M.D., to Miss Charlotte E. Burke, both of Muskegon, Mich., December 4.

JAMES S. AKEHURST, M.D., Baltimore, to Miss Agnes Hance of Stewartsville, N. J., December 3.

WALTER M. BOWERS, M.D., Bassett, Iowa, to Miss Clara Belle Parks of Waterloo, Iowa, December 5.

NAPOLEON BERTRAND ROSS, M.D., to Miss Mary Agnes Loughlin, both of Sonyea, N. Y., December 2.

HARRY C. DILTZ, M.D., Wilkinsburg, Pa., to Miss Elsie Pamilla Smith of Derry, Pa., December 7.

THOMAS D. MAHER, M.D., San Francisco, to Miss Josephine Hannify of Sausalito, Cal., November 28.

WALDEMAR T. RICHARDS, M.D., New Orleans, to Miss Jessie Ross Cotter of La Grange, Ga., December 13.

N. O. PEARCE, M.D., Chisholm, Minn., to Miss Elizabeth Carlton Harden of Minneapolis, Minn., December 4.

EDGAR LEE CRAFT, M.D., Sumrall, Miss., to Miss Mamie Amelia Royals of Meridian, Miss., November 15.

GEORGE M. INGHAM, M.D., Milwaukee, Wis., to Miss Margaret Atwater of Iowa City, Iowa, November 29.

WILLIARD B. HYDE, M.D., Christiansburg, Ohio, to Miss Leo Robinson, Lost Creek Township, at Piqua, Ohio.

WARREN E. G. HIGH, M.D., lieutenant (j. g.) U. S. Navy, to Miss Mary L. Knabb of Reading, Pa., December 5.

ARTHUR A. PRATTE, M.D., Keene, N. H., to Miss Marie J. Belanger of Everett, Mass., in Boston, November 28.

BENJAMIN J. EDGER, JR., M.D., U. S. Army, to Miss Edith Downing of San Francisco, Cal., the last week in November.

ALLEN MONROE OTTMAN, M.D., Hilton, N. Y., to Miss Caroline Elizabeth Hatfield of New Hartford, N. Y., November 27.

CHARLES HYDE DAVIDSON, M.D., Lexington, Va., to Miss Addie McCheaney Brown of near Hebron Church, Va., November 22.

HERBERT CHARLES GIBNER, M.D., assistant surgeon, U. S. Army, to Miss Charlotte Elizabeth Bruce, at Wawona, Cal., November 30.

Deaths

Charles B. Schoolfield, M.D. Medical College of Ohio, Cincinnati, 1873, of Dayton, Ky.; state referee for Campbell County; president of the county board of health; first president of the Northern Kentucky Medical Society; president of the Campbell and Kenton County Medical Association, and president of the medical staff of Speers Hospital, Dayton, of which he had been a trustee since its opening, died at a hospital in Charleston, W. Va., from sciatica, after a long illness, aged 59. Resolutions of respect and sympathy have been adopted by the societies of which he was so long a member.

William Friend, M.D. Years of Practice, Illinois, 1877; a member of the American Medical Association, Illinois State Medical Society, and Lawrence and Wabash County medical societies, and several times president of the latter organization; for 47 years a practitioner in Lancaster, Ill.; from 1868 to 1872 a member of the State Board of Equalization, died at the home of his son in Sumner, Ill., December 4, from cerebral hemorrhage, aged 77.

John J. Walsh, M.D. University of Buffalo, Medical Department, 1871; a member of the county and state medical societies; some-time sanitary inspector of the Buffalo Department of Health; a member of the Board of Health, and secretary of the Alumni Association of the University of Buffalo Medical Department, died at his home in Buffalo, December 6, after a long illness, aged 57.

John S. Arwine, M.D. Medical College of Ohio, Cincinnati, 1853; member of the Bartholomew County (Ind.) Medical Society; some-time health officer of Columbus, and physician of Bartholomew County, died from heart disease at his home in Columbus, Ind., December 2, after an illness of one year, aged 81. The county medical society passed resolutions of respect and regret.

Herman Emanuel Muller, M.D. University of California Medical Department, San Francisco, 1880; a member of the American Medical Association, Medical Society of the State of California and Alameda County Medical Society; one of the most prominent practitioners of Oakland, Cal., died suddenly at his home in that city, December 2, from acute laryngitis, aged 47.

L. Rollin Hudelson, M.D. Jefferson Medical College, Philadelphia, 1896; a member of the American Medical Association, Indiana State Medical Society, and Rush County Medical Society, died at his home in Milroy, Ind., December 6, from appendicitis, after an illness of one week, aged 48.

Edson Davidge Royal, M.D. College of Physicians and Surgeons in the City of New York, 1904, an interne in the General Hospital, Paterson, N. J., died at his home in Lebanon, Conn., November 28, from valvular heart disease, after an illness of six months, aged 31.

William Perry Bennett, M.D. Ohio, 1877, for many years surgeon of the Pennsylvania Lines at Crestline, Ohio; a member of the American Association of Railway Surgeons, died in his office in Crestline, November 30, from morphin poisoning, aged 49.

Leonard M. B. Perleman, M.D. Meletanic College of the Netherlands, 1864, of Ithaca, Mich., for many years surgeon on Atlantic liners, died suddenly from heart disease while making a professional call, November 30, aged 62.

Henry J. Thomas, M.D. Rush Medical College, Chicago, 1873, surgeon in the Army during the Spanish-American war, died at his home in Winston-Salem, N. C., November 29, from pneumonia, after an illness of one week, aged 55.

William J. Collins, M.D. Illinois Medical College, Chicago, 1903, of Geneva, Ind., was struck by a train and instantly killed while driving across the G. R. & I. R. R. tracks near Geneva, December 3, aged 39.

Edgar H. Whitten, M.D. Medical College of Alabama, Mobile, 1887, of Munford, Ala., fell from his buggy near that place, December 2, and was found dead in the road next morning, from cold and exposure.

Edward Osborn, M.D. College of Physicians and Surgeons in the City of New York, 1886, died at his home in East Hampton, Long Island, N. Y., December 4, from heart disease, aged 70.

Joseph Furniss, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1872, died suddenly at his home in Lancaster, Pa., December 8.

Benjamin F. Bronson, M.D. Pennsylvania, 1873, died at his home in Bridgeport, Conn., from cerebral hemorrhage, after an invalidism of three years, aged 54.

John Matheson, M.D. New York University, New York City, 1896, was robbed and murdered near his home in the Bronx, New York City, December 8, aged 38.

Francis Rowan Webb, M.D. Chicago Medical College, 1875, died at his home in Chicago, December 7, from pneumonia, after a short illness, aged 54.

Solomon B. Bowerman, M.D. Philadelphia, 1866, died at his home in Leaf River, Ill., November 27, from nephritis, after an illness of ten days, aged 77.

Joseph Berens, M.D. Pennsylvania, 1841, died at his home in Philadelphia from senile debility, after a short illness, December 6, aged 92.

George Kassen, M.D. Miami Medical College, Cincinnati, died at his home in Cincinnati, December 10, from cirrhosis of the liver.

Book Notices

CLINICAL METHODS. A Guide to the Practical Study of Medicine. By R. Hutchison, M.D., F.R.C.P., and H. Hainy, M.A., F.R.C.P. Ninth Edition. Cloth. Pp. 634. Price, $2.50 net. Chicago: W. T. Keener & Co., 1905.

This American republication of the well-known English book only needs mention. The numerous editions through which it has already gone are sufficient evidence of its worth. Its full and apparently accurate description covers the whole field of physical and clinical diagnosis.

ATLAS AND EPITOME OF DISEASES OF THE SKIN. By Prof. Dr. Franz Mracek of Vienna. Edited with Additions, by Henry W. Stelwagon, M.D., Professor of Dermatology, Jefferson Medical College, Philadelphia. Second Edition, Revised, Enlarged and Entirely Reset. Pp. 272; 127 Illustrations, 77 in Colors. Cloth. Price, $4 net.

This work is improved in its second edition by many new illustrations and considerable revision to bring it up to date. The colored pictures are certainly very valuable. Illustrations of skin lesions without colors are of comparatively little use; the practitioner will find this work decidedly helpful.

MICROTOMIST'S VADE-MECUM. A hand-book of the Methods of Microscopic Anatomy. By A. B. Lee, Sixth Edition. Cloth. Pp. 358. Price, $4.00 net. Philadelphia: P. Blakiston's Son & Co., 1905.

This edition contains much new matter, but the text has been condensed considerably so that the size of the book is not increased appreciably. The old chapter on staining with the coal-tar colors is omitted, but its contents have been worked up into the chapter on staining, which has been rewritten entirely. This combination adds to the worth of the book. The chapters treating of the nervous system have undergone a most thorough revision so as to conform with the technic now employed for the microscopic study of these tissues. The new arrangement increases the value of the book as a guide to the laboratory worker.

MEDICAL DISEASES OF EGYPT. By F. M. Sandwith, M.D., F.R.C.P. Lecturer at the London School of Tropical Medicine. Part I. Cloth. Pp. 316. London: Henry Kimpton, 1905.

This is an interesting book, written by one who understands his subject. He not only writes as one who has mastered what has been written by others on the topics which he discusses, but adds much that is valuable from his personal experience. To us in America it is of interest as a contribution to the study of the distribution of commoner diseases and of tropical diseases in particular. The first chapter, if we are to make any criticism on it, is too brief. It is devoted to the history of medicine in Egypt from the earliest time to the present. It is extremely interesting and might easily have been extended with value to the reader.

Part first, which is all that is in our hands, is a volume of several hundred pages and covers many of the infectious diseases. Forty pages are devoted to typhoid fever, and many facts of interest are noted. Among them we note that in Egypt typhoid is most prevalent during January, February and March and not during the fall months, as is the case in temperate climates. The author also cites as evidence of a degree of immunity on the part of native Egyptians to this disease that Americans and Englishmen acquire the disease by drinking impure water, which is used constantly by the natives with apparent immunity. Several illustrations of this fact are cited. It would be interesting—and our author says nothing on this point—to know whether the fever occurs in modified form commonly in childhood among the Egyptians and thus confers immunity on the adult. Sixty pages are devoted to plague.

Ankylostomiasis is discussed fully and is a common disease in Egypt. The author points to the fact that Joachin and Schentbauer think that it was referred to and partly described in the Ebers Papyrus written 3,460 years ago. He also describes the observations of Dr. Looso on the early symptoms of this malady, which are those of ground itch, and to the experiments which show that the parasite gains access to the body through the skin, producing so-called ground itch. He also refers to the observations of Claude Smith, of this country, bearing on the same point.

This book can be heartily recommended to all who are interested in the geographical distribution of diseases and their varying manifestations under varying conditions of climate.

OPHTHALMIC NEUROMYOLOGY. A Study of the Normal and Abnormal Actions of Ocular Muscles from the Brain Side of the Question. By G. C. Savage, M.D., with 51 Illustrations. Cloth. Pp. 221. Published by the author, Nashville, Tenn.

Any work on the oculomotor system by Dr. Savage must attract attention, as he is admitted by every ophthalmologist conversant with the literature of the day to be, perhaps, our highest authority on the subject. This, we are sure, is true not only of theories connected with eye muscle problems, but of their bearings in practice. Quite apart from his other works touching on these questions, "New Truths in Ophthalmology" and "Ophthalmic Myology" he has written many articles in which original views of the innervation of the straight muscles, their actions under normal and abnormal conditions, and their relations to one another are plainly set forth. Although it has not been possible for some observers to accept all these new doctrines, it must be said that the majority of them have successfully withstood the test of time, criticism and further investigation. Consequently, we are inclined to regard with favor the following propositions of Dr. Savage and to commend them and his book to the serious study of all earnest ophthalmologists and neurologists. These hypotheses (which after reading the work under consideration rise in our mind to the dignity of theories) form the basis and constitute the gist of the monograph:

"There are eight conjugate brain centers in the cortex, by means of which the several versions are effected, and one conjugate center by which convergence is caused. These conjugate centers act alike on orthophoric and heterophoric eyes and when there is only one eye. Each is connected with two muscles, and the work done by the center and its muscles under the guidance of volition, is normal work. The conjugate centers have no causal relationship with heterophoric conditions, nor have they any power to correct them.

"There are twelve basal centers, each connected with one muscle only. If the eyes are emmetropic-orthophoric these centers are at rest; in the presence of any form of heterophoria they are, during working hours, ever active. These centers do not produce heterophoria, but they stand ready to correct it. Under the guidance of the fusion faculty each basal center is prepared to act on its muscle, whenever there is a condition likely to cause diplopia. They may be called fusion centers."

Turning to the application of these hypotheses one finds that not only is no revolution in our well-known means for detection and treatment of muscle imbalance attempted, but these recent studies of the author rather emphasize that we, in America, generally accept as the best means of measuring and relieving the various forms of heterophoria and heterotropia. Of the many truths forcibly and clearly stated in Dr. Savage's monograph there is at least one that observing members of the profession will heartily applaud. It is that every man or woman who aspires to correct errors of refraction and of the oculomuscular balance should be "required to complete a graded course of study covering four years in a reputable medical college; for this work is as much a part of the practice of medicine, as is the treating of a case of pneumonia or the setting of a broken bone."

Miscellany

Glass Balls for Treatment of Trachoma and Pannus.—Likiernik writes from Lodz to the *Med. Klinik* for November 5 that he has obtained fine results in 310 cases of more or less chronic granular eye affections by local massage with a glass ball mounted on a long handle. The diameter of the ball is from 7 to 12 mm., and it is readily introduced under the upper or lower lid. After a few sittings the patient learns to use the ball himself. Diffuse granulations of years' standing yield rapidly to the daily use of the ball for merely thirty to sixty seconds, supplemented by the action of some antiseptic solution in which the ball is dipped before using. Pannus, if not too old, subsides quickly. Complications, such as infiltration of the cornea or indolent ulcers, do not contraindicate the ball treatment. Sometimes before using the ball he moistens it with a weak mercurial or 3 per cent. boric-acid solution.

Education Is the Cure.—The best weapon of the right is education. The best way to overcome quackery and public indifference is through education. Hence we believe that every high school and college should offer courses in domestic hygiene. Under that term we mean an explanation of the nature of disease and its causation, the conditions of health in the home and about town, simple nursing, the laws of cure, etc. This is, of course, along the line attempted by the school physiology work of recent legislation, but it is yet so different that the need is not met by the teaching of the elements of anatomy and physiology to children. The course should discuss all the more common diseases and the principles of treatment. It should include vaccination and serum treatment. In fact, it should be a popular course on the subject of rational medicine. Only thus can the man who has a cure-all be forestalled.—*Journal of the Kansas Medical Society.*

Sleeping Sickness in the Angola Highlands.—F. C. Wellman, in the *Journal of Tropical Medicine*, states that in the interior of Central and Southern Angola there is a distinct line of demarcation between the sleeping sickness districts and the regions free from that scourge. This line is the Coanza River. From the north bank of the Coanza to the northern boundary of the colony sleeping sickness is endemic in many situations; while from the south bank to German Southwest Africa it is not endemic, and, although one meets with occasional cases imported from the north, the disease does not spread nor attack the southern tribes. It is of great interest, he states, to note in this connection that north of the Coanza River the ordinary *Glossina palpalis* (so he has been informed), is the common tsetse-fly, while south of the Coanza the typical *G. palpalis* is not found, but its place is taken by the new subspecies, *G. palpalis wellmani*, recently described by Austen, which evidently is not a distributor of sleeping sickness. The exact relation between the geographical distribution of the disease and that of the two flies is a problem on which Wellman is now at work.

Hygiene in the Days of Good Queen Bess.—An interesting article describing the precautions taken in the reign of Queen Elizabeth to prevent the spread of plague and showing that even in the sixteenth century the value of isolation and disinfection was known and appreciated appears in the *Indian Medical Record*, Aug. 23, 1905. The regulations, etc., were published in a book, and the instructions to justices and the various rules are reproduced by the *Indian Medical Record* in full, with the quaint diction and spelling of those days. Houses of people sick with plague were required to be kept closed for a certain length of time, and if the owners of the infected houses did not observe this regulation they were imprisoned in the stocks and a sign put on the house. "And where any such houses shall be Innes or Ale houses, the signes shall be taken down for the time of restraint and some crosse or other marke set up in the place thereof, to be a token of the sicknesse." Certain persons were appointed to provide food and other supplies and to deliver them to the sick, and these persons, during their term of office, were required to carry a white rod in their hand or to wear some distinctive mark whereby other people might avoid them. A place was ordered set apart in every parish for the burial of those who died of the plague. The burial had to take place after sunset but before dark "so as the Curate be present for the observation of the rites and ceremonies prescribed by the lawe, foreseeing as much as conveniently he may, to be distant from the danger of infection of the person dead, or of the companie that shall bryng the corse to the grave." Bedding and other articles used by the sick were ordered to be "either burnt and cleane consumed with fire or else ayred." Poor people were recompensed for the destruction of their property. Any person preaching or publicly stating that precautions were vain and that a person dies at his appointed time was warned to desist, and if the warning was not heeded he was imprisoned. All justices in towns and villages were required to aid in carrying out these regulations. Taxes were imposed on the various towns and on wealthy people to defray expenses.

Decreasing Birth Rate in France.—Consul Haynes, of Rouen, in *Monthly Consular Reports*, says that there is no more worrying, persistent question in French economy than that of population. Nothing, he says, is so vexatious to the ambitious Frenchman than the fact that in Germany there are 600,000 more births annually than in France; and nothing more exasperating than the remark of von Moltke: "Every year by our birth rate we gain a battle over France." Mr. Haynes quotes statistics to show how this "nightmare of depopulation" has grown with every census in the last hundred years. In 1800 the population of Europe, in round numbers, was 98,000,000, of which 26,000,000 was French; thus France then had 26 per cent. of the population of Europe and now has only 11 per cent. At one time French was spoken all over the world; today it is the language of 45,000,000 people, while German is spoken by 100,000,000 and English by 150,000,000. Until 1850 France, in point of population, had been the first of the great European nations, afterward the second, but now the sixth, with Italy closely following and threatening to pass France and to leave her seventh. French statesmen realize the danger to their country and are asking what is to become of France, while bills intended to remedy the evil are being introduced into the legislature and societies are being formed all over the country. The National Alliance for Increasing the French Population was founded in 1896, its object being to point out the danger that threatens the country and to devise means to remedy it, and to secure appropriate legislation. The alliance states: France is on the way to become a third-class power; this tendency is due to the decreasing birth rate. It is as much a man's duty to contribute to the perpetuity of his country as to defend it in time of war. To bring up a child is a duty to the state equivalent to paying taxes. To acquit sufficiently this duty every family should have at least three children; therefore, families with more than three children should be exempt from taxation. The laws of inheritance and the present methods of dividing property should be modified, as the present laws are not conducive to large families. Lastly, infants should be protected in order to diminish the mortality of the new born. One of the causes of this comparative depopulation of France is said to be the neglect of religious practices and beliefs. Other causes are said to be military service and the inheritance laws by which all land goes to the eldest son, thus assuring him a position and competence. Paternal selfishness is given as another; many fathers who would have been able to live in ease if they had a limited number of children are compelled to labor arduously to provide for their families.

Queries and Minor Notes

ESPERANTO MANUAL.

NEW HAMPTON, N. H., Dec. 8, 1905.

To the Editor:—Will you kindly inform me through THE JOURNAL if there have been published a dictionary and a grammar of the artificial language Esperanto? If so, where are they procurable and what is the price? A. S. DOLLOFF.

ANSWER.—A students' complete manual of Esperanto, with vocabulary, a book of 175 pages, by J. B. O'Connor, B.A., was published in 1903 by F. H. Revell & Co., Chicago. The price is $0.60. The dictionary costs $1, from the same firm. The Librarie Hachette, Paris, publishes the monthly in Esperanto called the *Internacia Scienca Revuo*. The original grammar contains only sixteen rules, and there are no exceptions to any rule.

RECIPROCITY WITH WISCONSIN.

——, Dec. 1, 1905.

To the Editor:—1. What states have reciprocity with Wisconsin in the matter of recognizing, without examination, a license gained by examination in Wisconsin? 2. What other states, though having no established reciprocity with Wisconsin, recognize, without examination, a license earned by examination under the Wisconsin State Board? X. Y. Z.

ANSWER.—1. Wisconsin reciprocates only with Indiana, Michigan, Ohio, Iowa, Kansas, Illinois, Nebraska, Kentucky, Maryland, Georgia, Oklahoma, South Carolina, New Mexico, North Dakota and District of Columbia, on the basis of qualifications as adopted by the American Confederation of Reciprocating Medical Examining and Licensing Boards. Requirements by the various states are so different that the question can not be answered by a general statement. Any physician desiring to register in another state should correspond directly with the secretary of the licensing board of that state. 2. None.

POLISH AND GERMAN CONVERSATIONAL AIDS.

NORWICH, CONN., ———— —, 1905.

To the Editor:—I am often called to Polish families and am anxious to secure a small book containing Polish-English sentences, if you know of any such, or in fact any book by which one could be able to converse with them as a physician would like to. Similar simple books in German-English and French-English would be of service. CHARLES F. WHITNEY, M.D.

ANSWER.—A series of small pamphlets, written by F. Thimm, is published by Dick & Fitzgerald, 18 Ann Street, New York, entitled "Self-taught German," "Self-taught French," "Self-taught Spanish" and "Self-taught Italian," containing brief conversations on various subjects, including one on the health. The pronunciation of each word is given so exactly as to aid greatly. There is no Polish pamphlet, but a very good Polish-German guide to conversation is published by B. Behr, Berlin. It has a large part devoted to "Conversation with the doctor." It is by F. Fischer, and copies are for sale by the Foreign Bookstore, Koeling & Klappenbach, 160 Randolph Street, Chicago, for 35 cents. There is no pronunciation in this manual, but any one able to pronounce German can make himself understood with the Polish sentences. "Medical German," by Deutsch, contains conversations with patients in German and English. Cloth. Price, $1.75.

Parallel reading of an article with a literal translation is a great help toward acquiring proficiency in a foreign language. Comparing the words and paragraphs, line by line, sentence by sentence, shows the structure of the foreign language, while the reader makes rapid progress without the bother of turning to the dictionary (see THE JOURNAL, July 22, 1905, page 253). Copies of a small semi-monthly for parallel readings in German and English have been received at this office. The *Translator* aims to supply short articles, stories, news items, business letters, puzzles, etc., in parallel columns of German and English text. A French and German number is also issued, called *Le Traducteur*, now in its thirteenth year. A specimen number will be forwarded free of charge on writing to the publisher of the *Translator*, La Chaux-de-Fonds, Switzerland. The subscription price is $1 a year, doubtless with something extra for foreign postage.

THE PERCENTAGE OF UREA IN URINE?

LOS ANGELES, CAL., Nov. 17, 1905.

To the Editor:—It is not an uncommon experience in reading articles in medical periodicals in which an analysis of the urine is given, to see it stated that the urine contained a certain percentage of urea, without giving any hint as to the amount of urine passed *per diem*, which gives no information whatever regarding this valuable excretion. Now the ultimate object of analysis of urine for urea is to determine the amount of burned up tissue excreted each twenty-four hours. We know that for that time tissue waste should be represented in the ordinary individual by an excretion of from twenty to thirty-five grams of urea, and if the quantity falls below the minimum, with other known pathological conditions, there is reason to believe that this excretion is not being properly eliminated. My attention was called again to this form of statement in an article published in THE JOURNAL, Nov. 11, 1905, page 1489, where the pathologist reports (if the quotation is accurate) that an examination of the urine "showed a specific gravity of 1007, indican slight, urea 50 per cent." I do not wish to question the accuracy of the analysis, paradoxical as it appears, but would simply call attention to the fact that this percentage, as in all other like statements, without giving the quantity of urine passed, gives the reader absolutely no information as to the excretion of urea, except that some was excreted. If the pathologist will give the amount of urine each twenty-four hours, and the per cent. of urea found, the reader can figure it out and learn the quantity in grams or grains, when the reader or auditor will have a fact of some specific importance relative to the condition of this excretion. WILLIAM H. DUDLEY, M.D.

ANSWER.—Your criticism is altogether correct, and we assume part of the blame in not seeing the fault and calling Dr. Cott's attention to the error before publishing the paper. There is altogether too much laxity in reporting urinary findings in general, and urea figures in particular, and in interpreting them.

Urea determinations, to be of value, should be performed in the total 24 hours' quantity for several days in succession; moreover the diet, especially the nitrogenous articles of food and the total liquids, should be included in the calculation, for the urea of the urine is in great part derived directly from the nitrogenous elements of the food (chiefly albumins) and in lesser part from the disassimilation of the body tissues proper. Any deviation from the normal, therefore, either in the amount of nitrogenous pabulum ingested or in the power of the gastrocenteric walls to absorb it must needs become manifest in the urine—a copious amount of albumin in the food causing a large urea excretion, a small amount a correspondingly diminished urea excretion; a healthy gastric and intestinal function leading to greater urea excretion after the same amount of nitrogenous food than a diseased one. Other important elements must be included in the calculation:

1. *The amount of exercise;* a resting individual always excretes less urea than a subject indulging in much physical exercise, for the latter destroys more of his own tissues.

2. *The amount of liquid intake;* abundant water drinking at first always causes a broad stream of urea to enter the urine, for all residual circulating urea is in this way flushed out; the same applies to certain (particularly saline) diuretics.

3. *The presence or absence of fever,* a febrile subject always passing more urea than an individual with a normal temperature for in the former the catabolism of the body tissues is more active.

4. *The alkalinity, i. e., acidity of the blood,* any factor that determines acidosis, i. e., a reduction in the blood alkalinity, reduces the urinary urea, for abnormal acids (oxybutyric, diacetic, lactic, phosphoric, uric, etc.) or normal acids in excessive quantity that may enter the bloodstream immediately combine with ammonia and bear the latter with them into the urine; as, now, ammonia is the physiologic precursor of most of the urea that is manufactured in the liver, it is clear that this loss of ammonia means a corresponding decrease in the amount of urea that is formed in the liver, enters the blood-stream and thence the urine.

5. *The state of the liver function.* Any element that produces insufficiency of the hepatic cells also produces a decrease of the urinary urea; this is apparent from what has been said above, for when the liver cells are no longer adequate to form urea from ammonia salts, less urea must of necessity appear in the urine.

It will be seen, therefore, that the urea excretion is by no means an index *per se* of the state of the renal function, but that it is merely an expression of the state of the general metabolism as influenced by the divers factors enumerated above. How crude it is to interpret a small percentage of urea in a single specimen of urine to signify insufficiency of the kidneys! and how commonly is this error committed!

Granted even that all the elements named above were carefully considered, that the determination were performed with the mathematical accuracy of a metabolic experiment, even then a decreased urea excretion might mean nitrogen retention, i. e., be a good omen, especially if the patient gains in weight. At best, if this interpretation could not be accepted, it would mean that the kidneys did not permit the passage of urea but might be permeable for other urinary bodies; for little correspondence exists between the retention of the different urinary ingredients. It might finally mean that less urea than normal is formed while the kidneys were at the same time quite permeable for whatever amount of urea actually reached them in the renal blood and clamored for elimination. When one considers, finally, that, especially in chronic nephritis, the permeability of the kidneys varies from day to day, that in some renal disorders affecting chiefly one kidney, the healthier organ vicariously assumes a compensatory hyperfunction, that finally abnormal amounts of urea might be circulating while the kidneys were partially impermeable, and that as a result an approximately normal amount of urea would appear in the urine; when one considers all these points, and many more that can not be elaborated, it is clear that our correspondent's point is well taken, and that the only objection to his criticism is that it stops far short of the actual deplorable state of modern urea determinations and their clinical interpretation by practicians in general.

State Boards of Registration

COMING EXAMINATIONS.

MISSOURI State Board of Health, Kansas City, December 19-21. Secretary, J. A. B. Adcock, Warrensburg.

CALIFORNIA State Board of Medical Examiners, San Francisco, December 20. Secretary, Charles L. Tisdale, San Francisco.

UTAH State Board of Medical Examiners, Salt Lake City, January 1. Secretary, R. W. Fisher, Salt Lake City.

ARIZONA Board of Medical Examiners, Phoenix, January, 1-2. Secretary, Ancil Martin, Phoenix.

WASHINGTON State Medical Examining Board, Spokane, January 2. Secretary, C. W. Sharples, Seattle.

OREGON State Board of Medical Examiners (Regular), Portland, January 2. Secretary, Byron E. Miller, Portland.

NORTH DAKOTA State Medical Examining Board, Grand Forks, January 2. Secretary, H. M. Wheeler, Grand Forks.

MINNESOTA State Board of Medical Examiners, Old Capitol Building, St. Paul, January 2-4. Secretary, C. J. Ringnell, Minneapolis.

RHODE ISLAND State Board of Health, State House, Providence, January, 4-5. Secretary, G. T. Swarts, Providence.

ARKANSAS Medical Board, Little Rock, January 9. Secretary, J. P. Runyan, Little Rock.

NEW HAMPSHIRE State Board of Medical Examiners, State House, Concord, January 9-10. Secretary, H. C. Morrison, Concord.

VERMONT State Board of Medical Registration, Burlington, January 9-11. Secretary, W. S. Nay, Underhill.

WISCONSIN Board of Medical Examiners, Pfister Hotel, Milwaukee, January 9-11. Secretary J. V. Stevens, Jefferson.

SOUTH DAKOTA Board of Medical Examiners, Sioux Falls, January 10-11. Secretary, H. E. McNutt, Aberdeen.

DISTRICT OF COLUMBIA Board of Medical Supervisors, Washington, January 11. Secretary, W. C. Woodward, Washington.

ILLINOIS State Board of Health, Great Northern Hotel, Chicago, January 18-20. Secretary, J. A. Egan, Springfield.

NEW YORK State Boards of Medical Examiners, January 30-February 2. Secretary, Charles F. Wheelock, Albany.

Iowa Reports.—Dr. J. F. Kennedy, secretary of the Iowa State Board of Medical Examiners, reports the examinations held at Des Moines, March 22-23; Keokuk, April 20-21; Sioux City, May 1-3; Des Moines, June 5-6; Iowa City, June 8-9, and at Des Moines, June 22-23.

At the examination held at Des Moines in March the number of subjects examined in was 8; the total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 16, of whom 7 passed and 9 failed. The following colleges were represented:

College.	Year. Grad.	Per Cent.
PASSED.		
Barnes Med. Coll., St. Louis	(1905)	81
College of P. & S., Chicago	(1902)	87
Drake University Des Moines	(1905)	82
National Med. Univ., Chicago	(1904)	80
Northwestern University Woman's Med. School	(1892)	86
Rush Med. Coll., Chicago	(1903) 83; (1905)	88
FAILED.		
Barnes Med. Coll., St. Louis	(1901) 69, (1902)	72
Rush Med. Coll., Chicago	(1900)	63
Marion Sims-Beaumont Med. Coll.	(1904)	71
University of Iowa	(1904)	74
Eclectic Med. Inst., Cincinnati	(1905)	69
College of P. and S., Chicago	(1904)	65
American Med. Coll., St. Louis	(1903)	58
Chicago Homeo. Med. Coll.	(1904)	78

At the written examination held at Keokuk April 20-21, 1905, the number of subjects examined in was 8; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 54, of whom 48 passed and 6 failed. The following colleges were represented:

College.	Year. Grad.	Per Cent.
PASSED.		
Barnes Med. Coll., St. Louis	(1901)	77
College of P. & S., Keokuk (1905), the grade of 75 was reached by two; 77, by two; 78, by four; 79, by three; 81, by four; 82, by three; 83, by two; 84, by seven; 85, by five, 86, by three; 87, by three; 88 and 89 by two each, and 76 and 80 by one each.		
Rush Med. Coll.	(1902) 87; (1905)	81
College of P. & S., St. Louis	(1905)	80
FAILED.		
College of P. & S., Keokuk	(1902) 70; (1904) 74; (1905)	62, 67, 74, 74.

At the written examination held at Sioux City, May 1-3, 1905, the number of subjects examined in was 8; the total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 14, all of whom passed. The following colleges were represented:

College.	Year. Grad.	Per Cent.
PASSED.		
Sioux City Coll. of Med.	(1905) 81, 82, 83, 83, 83, 84, 84, 84, 84, 85, 86, 86, 89.	
Trinity University, Toronto, Canada	(1904)	80

At the written examination held at Des Moines, June 5-6, 1905, the number of subjects examined in was 8; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 25, of whom 21 passed and 4 failed. The following colleges were represented:

College.	Year. Grad.	Per Cent.
PASSED.		
Barnes Med. Coll. St. Louis	(1902) 78; (1905)	80, 83
College of P. & S., Chicago	(1905)	86
Creighton Med. Coll., Omaha	(1905)	89, 90
Drake University, Des Moines, (1904), 79. (1905)	81, 81, 81, 82, 83, 84, 85, 86, 87, 88.	
University of Michigan	(1904)	88
Western Med. Coll., London, Ont.	(1905)	82, 83
FAILED.		
University Med. Coll., Kansas City	(1897)	0
Rush Med. Coll., Chicago	(1899)	70
Illinois Med. Coll., Chicago	(1905)	74
Eclectic Med. Inst., Cincinnati	(1903)	69

At the written examination held at Iowa City, June 8-9, 1905, the number of subjects examined in was 8; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 69, all of whom passed. The following colleges were represented:

College.	Year. Grad.	Per Cent.
PASSED.		
College of P. & S., Chicago	(1905)	85
University of Iowa (1905), The grade of 78 was reached by four; 79, by two; 80, by two; 81, by five; 82, by two; 83, by five; 84, by five; 85, by ten; 86, by six; 87, by four; 88, by eight; 89, by eight; 90, by three; 92, by two, and 91 and 95 by one each.		

At the written examination held at Des Moines, June 22-23, 1905, the number of subjects examined in was 8; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 19, of whom 17 passed and 2 failed. The following colleges were represented:

College.	Year. Grad.	Per Cent.
PASSED.		
College of P. & S., Chicago	(1905) 76, 76, 80,	81
Hahnemann Med. Coll., Chicago	(1905)	89
Jefferson Med. Coll., Philadelphia	(1904)	83
Northwestern University	(1905) 83, 85, 86, 87,	88, 90
Queen's University Kingston, Ont.	(1905)	76
University Med. Coll., Kansas City	(1905)	81
University of Michigan	(1905)	84
University of Minnesota	(1899)	83
University of Pennsylvania	(1902)	79
FAILED.		
University Med. Coll., Kansas City	(1897)	57
Ensworth Med. Coll., St. Joseph	(1905)	64

Iowa September and October Reports.—Dr. J. F. Kennedy, secretary of the Iowa State Board of Medical Examiners, reports the written examinations held at Des Moines, Sept. 13-14, and Oct. 18-19, 1905. At both examinations the number of subjects examined in was 8; total number of questions asked, 100; percentage required to pass, 75.

At the September examination the total number of candidates examined was 23, of whom 19 passed and 4 failed. The following colleges were represented:

College.	Year. Grad.	Per Cent.
PASSED.		
College of P. and S., New York	(1905)	86
Homeo. College of Missouri	(1903)	79
Howard University, Washington, D. C.	(1905)	80
Jefferson Med. Coll.	(1905)	81, 89
Marion-Sims-Beaumont Med. Coll.	(1898) 77; (1903)	83
National Med. Univ., Chicago	(1904)	83
Northwestern University	(1905)	87, 88
Queen's University, Kingston, Ont.	(1904)	79
Rush Med. Coll.	(1903) 82,	87, 90
Toronto Med. Coll.	(1905)	76
University of New York City	(1897)	79
University of Pennsylvania	(1903)	87
Western Reserve University	(1893)	83
College of P. & S., Milwaukee	(1900)	77
FAILED.		
College of P. & S., St. Louis	(1904)	66
Ensworth Med. Coll., St. Joseph, Mo.	(1905)	72
Eclectic Med. Inst., Cincinnati	(1903)	71
College of P. and S., Chicago	(1905)	71

At the October examination the total number of candidates examined was 7, of whom 5 passed and 2 failed. The following colleges were represented:

College.	Year. Grad.	Per Cent.
PASSED.		
Rush Med. Coll.	(1904)	87
Johns Hopkins University	(1905)	76
Keokuk Med. Coll.	(1903)	84
University of Kentucky, Louisville	(1904)	88
Woman's Med. Coll., Philadelphia	(1904)	85
FAILED.		
College of P. and S., St. Louis	(1904)	56
College of P. and S., Chicago	(1905)	71

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending December 9:

Cowper, H. W., asst.-surg., relieved from duty in Philippines Division, and ordered to Washington Barracks, D. C., for temporary duty, at expiration of sick leave.

Snyder, Henry L., surgeon, left Fort Sam Houston, Tex., for duty at State Militia Camp, Austin, Texas.

Lewis, Wm. F., asst.-surgeon, on his arrival at San Francisco, will proceed to Chicago, for duty as attending surgeon and examiner of recruits.

Manly, C. J., asst.-surgeon, granted 30 days' leave of absence.

Wall, Francis M., contract surgeon, returned to Fort Oglethorpe, Ga., from target range.

Dickenson, Clarence P., contract surgeon, left Fort Logan, Colo., on leave of absence.

Slater, Ernest F., contract surgeon, left Washington Barracks, D. C., on sick leave of absence for ten days.

Leeper, John F., contract surgeon, granted leave of absence for two months in the United States, from the Philippines Division.

Pinquard, Jos., contract surgeon, ordered from the Philippines Division to the United States for annulment of contract.

Enders, Wm. J., contract surgeon, granted leave of absence for one month, ten days.

Brooks, John D., contract surgeon, granted leave of absence for 30 days.

Parkman, Wallace E., contract surgeon, arrived at Presidio of San Francisco for temporary duty.

Mount, Jas. R., contract surgeon, granted leave of absence for three months in the united States from the Philippines Division.

Newlove, George, contract surgeon, ordered to San Francisco, as witness before a general court martial, after which he will resume his leave of absence from the Philippines Division.

Wertenbaker, C. L., contract surgeon, granted leave of absence for one month.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending December 9:

Huntington, E. O., surgeon, ordered to treatment at the Naval Hospital, New York, N. Y.

Woodward, J. S., asst.-surgeon, detached from the *Brooklyn* and ordered to Colon, Panama, for special duty.

Holloway, J. H., asst.-surgeon, ordered to the Navy Yard, Norfolk, Va.

Wise, A. H., acting asst.-surgeon, detached from duty with the Naval Recruiting Party No. 1, December 16, and ordered to the Navy Yard, Washington, D. C.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ending December 6:

Vaughan, George T., asst. surgeon general, granted leave of absence for two months and eight days from December 1.

Gassaway, J. M., surgeon, reassigned to duty at St. Louis, Mo., effective Aug. 2, 1905.

Meade, F. W., surgeon, on being relieved by Surgeon A. C. Smith, to proceed to Charleston, S. C., for duty.

Kalloch, P. C., surgeon, authorized to attend meeting Maine State Board of Health, at Augusta, Dec. 7, 1905, relative to smallpox.

White, J. H., surgeon, relieved from duty at Mobile, Ala., and from special temporary duty in New Orleans, La., and directed to assume charge of the service at New Orleans, La., relieving Surgeon A. C. Smith.

Smith, A. C., surgeon, relieved from duty, New Orleans, La., and directed to proceed to Pittsburg, Pa., for duty, relieving Surgeon F. W. Meade.

Corput, G. M., P. A. surgeon, relieved from duty at Pascagoula, Miss., and directed to report to Surgeon, J. H. White, New Orleans, La., for special temporary duty.

Wilson, R. L., P. A. Surgeon, relieved from duty at Vera Cruz, Mexico, and directed to report to the medical officer in command, New Orleans, La., for duty and assignment to quarters.

Wilson, R. L., P. A. surgeon, granted fifteen days' leave of absence en route from Vera Cruz, Mexico, to New Orleans, La.

Berry, T. D., P. A. surgeon, relieved from duty at Biloxi, Miss., and directed to proceed to New Orleans, La., reporting to Surgeon J. H. White for special temporary duty.

Earle, R. H., P. A. surgeon, reassigned to duty at Columbia River Quarantine Station, Astoria, Ore.

McKeon, F. K., asst.-surgeon, granted leave of absence for ten days from December 22.

Duke, B. F., acting asst.-surgeon, granted leave of absence for twenty-five days from November 29.

Rodman, J. C., acting asst.-surgeon, granted leave of absence for five days from December 3.

Stearns, W. L., pharmacist, granted leave of absence for twenty-one days from December 9.

Maguire, E. S., pharmacist, granted leave of absence for thirty days from December 2.

Van Ness, George L., Jr., pharmacist, granted eleven days' leave of absence from December 4.

RESIGNATION.

Vaughan, George T., asst. surgeon-general, resigned, to take effect Feb. 9, 1906.

Medical Organization

North Carolina.

STATE MEDICAL SOCIETY.—We have received a reprint of the presidential address by Dr. D. T. Tayloe before the last meeting of the Medical Society of the State of North Carolina. The principal topic discussed in the address is the value of hospitals, and President Tayloe's plea for more hospitals of the right kind will be indorsed by the profession generally. We are particularly interested, however, to note the progress of the work of organization in North Carolina, as indicated in the address, from which we quote:

"I can not refrain from congratulating the society on the success the new plan of reorganization has achieved, sufficient beyond all doubt to satisfy the most skeptical. In 1903 the state society had nearly 500 names on the roll, but only 283 were in good standing (on account of dues). In June, 1903, we reorganized, and at that time had less than ten county organizations in the state. In May, 1904, we met and had double the attendance we ever had at any state society meeting, and there have been sent out transactions for 1904 to 1,065 members whose dues are paid up for that year. This speaks for itself. I wish to add, however, that this fine showing is to a large extent due to the efforts of our efficient secretary, Dr. J. Howell Way, who has spent much time and energy in furthering the progress of this great work, there being few men who could have accomplished such results.

"I wish to impress on the different county organizations the importance of having an efficient, painstaking and business-like secretary, as much of the work devolves on him, and much of the success of the society is through his efforts.

"The society is also to be congratulated on having such efficient members in the Senate and House of Representatives as successfully to defeat the progress and invasion in our state of quacks, osteopaths and other designing fakes. To this same body is due also our thanks and the sincere thanks of the entire state in establishing a state laboratory of hygiene, which was much needed and which is a public beneficence."

Society Proceedings

COMING MEETINGS.

American Dermatological Association, New York, Dec. 28-30.
Western Surgical and Gynecological Association, Kansas City, Mo., Dec. 27-28.

THE AMERICAN SOCIETY OF TROPICAL MEDICINE.

Meeting held Nov. 17, 1905.

DR. ROLAND G. CURTIN in the Chair.

Study of Tropical Medicine.

DR. F. C. WELLMAN of Benguella, Angola, West Indies, contributed this paper, which was read by Dr. Joseph McFarland, president of the society. The author referred to the comparatively recent growth of the remarkable and general interest in the problems of tropical pathology. When Sir Patrick Manson published his study of *Filaria sanguinis hominis* in 1883 but little scientific knowledge of tropical ailments had been collected. Dr. Wellman thought no one could claim to be *au courant* with the science of general medicine without an appreciative acquaintance with the leading facts of tropical pathology. The following statements were made by the author: 1. The successful settlement of the tropics is of very great importance to the world. 2. Such settlement depends in no small measure on the solution of various hygienic and epidemiologic problems there obtaining. 3. In the absence of this knowledge an enormous extra expenditure of lives and money is certain to ensue. 4. The problems in question can best be studied and met by trained observers, scientific medical men living in the tropics. Methods of study were discussed by reference to some of the best work done in the past, for instance, that on the subject of animal parasites by Cobbold, Leuckart, Blanchard, Stiles and Braun, Laveran, Manson, Ross and others. With reference to the personal equation, Wellman quoted Sir Patrick Manson ifi that "the student of medicine must be a naturalist before he can hope to become a scientific epidemiologist or pathologist, or a capable practitioner." Reference was made to the very incomplete state of knowledge of the geographical distribution of disease. The epiphytic skin diseases of the tropics, the behavior of the ordinary bacteria in hot climates, and the peculiar form which some cosmopolitan diseases assumed in warm countries offered fruitful fields for investigation. Another subject of great moment is that of the intermediate hosts which subserved various parasites. For example, the life history and seasonal prevalence of comparatively few mosquitoes and other blood-sucking diptera had been observed. Of 13 species of mosquitoes collected by himself in a small district in West Africa 7 were new to science. Of 11 different biting-mouthed flies only one had been previously described, and the district was shown to rejoice in several new blood-sucking ticks. In conclusion suggestions were made of special work worthy of attention in the following connection: The completion of the investigation of the so-called Leishman-Donovan bodies; explanation of the puzzling dyscrasia in certain obscure fevers; observation of the new Maxwell-MacLean disease; critical examination of the suggested relation between ainhum and leprosy; further confirmation of the work done by Ross and Milne and the Liverpool School on "tick fever," and by Christy and Feldman on the intermediate host of *Filaria perstans*—a study of the neglected *Sarcorporidia* and gregarines of the tropics, to say nothing of the special hygienic, surgical and ophthalmologic questions which specialists in hot climates have raised. All these, he thought, indicate that the scope of tropical medicine is practically unlimited and that the work is still in its commencement.

Uncinariasis.

DR. CLAUDE A. SMITH, Atlanta, Ga., gave the results of his observations and experiments in connection with the disease, and especially of his investigation of infection through the skin. His patients had given a history of "ground itch," although many who did not have the disease also gave a history of "ground itch." Investigation showed that those patients who had had "ground itch" and did not have the parasites in the intestines, had the eruption a great many years before. It was, therefore, supposed that the parasites had died out in the intestines in the meantime. A study of the life history of the parasite showed that in an attack of true ground itch within a period of about eight years, the parasite was always present in the intestines. Ground itch is very common throughout the South, where it is also known as "dew poison," "toe itch." These terms, however, might be misleading, as their significance differs in different localities. True ground itch, he said, appears almost invariably after the person has been walking barefoot in the mud, especially if the ground had been wet for several days. The itching at times becomes excruciating. Macules at the points of irritation rapidly change to vesicles, which remain discreet or confluent and usually rupture. The duration of the attack varies from two to several weeks, dependent on treatment and the spread of the infection by scratching.

Dr. Smith's investigations of the source of infection show that the water could not be the cause in most of the cases, nor lack of cleanliness. Further investigation shows that the disease is of the country and not of the city. In a study of the parasite itself he found that to hatch the eggs of uncinaria the best plan is to use a Petri dish with a snugly fitting top. The process of hatching and the development and habits of the larvæ were minutely described. Little motility is displayed by the organisms while in the Petri dish, but if placed on a slide they move rapidly for a few minutes to half an hour, when they lie perfectly still for a corresponding length of time with their bodies perfectly straight, after which they again resume their lively motions. The life of the larvæ may be maintained in the Petri dish for three to four months. The diagnosis of the disease can only be made by the finding of the eggs of the parasite in the stools. The treatment is simple and effective, and consisted in the administration of thymol and purgation. Thymol, however, should never be given without a preliminary examination of the stools with the microscope. A purgative is given at night, usually of salts, followed in the morning by 30 grains of thymol. Two more doses are given at intervals of two hours, followed by another large purgative. A second treatment in the course of a week practically clears up the intestines. If indicated, the treatment is to be repeated. The indifference of the patient to infection is a marked feature. In the treatment of a case there should be close observation on the part of the physician because of the possible bad results of thymol.

CHICAGO MEDICAL SOCIETY.

Regular Meeting, held Nov. 29, 1905.

The President, DR. CHARLES S. BACON, in the Chair.

Etiology, Diagnosis and Treatment of Perinephritic Abscess.

DR. RAMON GUITERAS, New York City, reported 15 cases, and emphasized the following conclusions: 1. Many more cases of perinephritic abscesses are due to suppurative renal disease than is generally supposed. 2. Traumatism, exposure and similar influences to which perinephritic abscess is attributed are not so important as many observers have claimed; they are given as causes when they are simply coincidences, or the active cause of rupture of already existing abscesses of the kidney or neighboring structures. 3. It is important, though difficult, to determine the source and course of the pus; therefore, during the operation the surgeon should try to determine whether the kidney is the source, and, if not, what tissue is the source. It is quite important to discover the route taken by the pus, as it indicates where counter-incisions should be made, and the further treatment of the complications of the case. 4. The elements of success in operations for perinephritic abscess may be summed up as follows: (a) Early operation, incision and evacuation before the pus has had time to burrow extensively; (b) thorough exploration without timidity, opening the kidney and exploring the ureter if need be; (c) thorough drainage down the deepest part of the sac by means of large rubber drains of gauze, the drain being kept in place until a well-formed sinus exists down the deepest part of the cavity; (d) secondary nephrostomy or nephrectomy, if indicated at the time of the operation, later. 5. Nephrectomies are exceedingly dangerous in these cases, and it is better to perform nephrotomy or to content one's self with the simple opening of the abscess cavity even though a sinus results.

Sanatorium Treatment of Tuberculosis.

DR. G. W. HOLDEN, Denver, said that the first aim of any institution should be to restore to a life of usefulness those who are afflicted with this disease. A most important object is the education of those reached directly and indirectly by the work of such an institution. Holden reported on the cases treated at the Agnes Memorial Sanatorium during one year. Two hundred and twenty-four patients were admitted, 107 discharged, 8 dismissed for non-observance of rules, and 13 remained less than one month. Of 102 cases, whose average stay was from six to eight months, 13 were discharged apparently cured, 28 arrested, 43 improved, 16 unimproved, with progressive disease, and 2 died. The cases fell into three classes—the incipient or favorable cases, the moderately advanced, and the far advanced. Of the incipient cases 64.70 per cent. were discharged apparently cured, 17.65 per cent. were arrested, 17.65 per cent. were improved. In none did the disease progress, and none died. Of the cases moderately advanced 4.65 per cent. were discharged apparently cured, 39.54 per cent. were arrested, 46.50 per cent. were improved; in 9.30 per cent. the disease was progressive; none died. Of the far advanced cases none was cured, 19.05 per cent. were arrested, 47.62 per cent. were improved; in 38.57 per cent. the disease was progressive, and 4.76 per cent. died. Holden says forced feeding is not essential nor desirable to obtain results. He prefers to depend on an abundance of good food served in the three regular meals, in conjunction with the careful regulation of the life of the patient. Constant attention is paid to assimilation and elimination. Of the incipient cases 17 gained 132 pounds, an average of 7¾ pounds. This is a small gain for each case, but the majority of incipient cases are not emaciated. Of the cases moderately advanced 38 gained 432 pounds, an average gain of 11 1/3 pounds. In exceptional cases exceptional gains were made. Of these cases 5 lost 16¾ pounds, an average of 3 1/3 pounds. His experience shows that when a patient is near his average weight, the gain or loss is not always an index of the pulmonary condition, and after all, the lung condition is the vital matter. Of the far advanced cases 29 gained 288 pounds, an average of 10 pounds; notwithstanding this gain their pulmonary findings placed them in this class; 13 lost 53¾ pounds, an average of 4 pounds plus. Dr. Holden gave an excellent idea of what they are doing at the Agnes Memorial Sanatorium, a work which has been made possible through the philanthropy and public spirit of Mr. Lawrence C. Phipps.

Behring's New Tuberculosis Remedy.

DR. ARNOLD C. KLEBS read this paper, which appears in this issue of THE JOURNAL.

Economic Aspect of Modern Treatment of Tuberculosis.

DR. J. W. PETTIT, Ottawa, Ill., said that it is primarily based on life in the open air. To meet this demand we must make a radical departure from the conventional plan of hospital construction. It is perfectly natural that sanatoria should at first copy the usual methods of hospital construction, hence there has arisen altogether too expensive an ideal. The great difficulties encountered in carrying out the open-air treatment are so formidable that any method which will cheapen or simplify the treatment should be carefully considered. Providing tuberculous patients with sleeping apartments in substantial buildings is not only unnecessary, but in violation of an essential principle which has for its object supplying the patient

with fresh air. The simplest and least expensive method which would protect the patient from the inclemency of the weather and supply him with the largest amount of the best possible air is the one which commends itself for scientific and economic reasons. We should proceed on the principle of the greatest good to the greatest number. If we can make a given sum of money which is now expended in the care of one patient provide for several, it is our duty to do so. This can be done. This is the problem they have been trying to work out at the Ottawa tent colony, and, they believe, with some degree of success. Since the tent is practicable in a cold climate, it should be used more extensively. It fulfills the conditions most perfectly from a scientific standpoint. The difficulty of keeping patients in the open air is well known. Every temptation placed before them in the way of indoor comforts only adds to the difficulty. The only way to insure patients getting fresh air is to place them where they can get nothing else. To be consistent, patients should be kept out of doors not part of the time, but all the time. In no other way can this be done so easily and satisfactorily as in a tent. A tent is an ideal method of housing tuberculous patients in a mild climate. The cost of food is the most expensive item in the treatment of tuberculosis, and any attempt to cheapen this feature by cutting down the quantity or cheapening the quality will tend to nullify the treatment just to the extent to which this is done. The psychical element must also be considered. This makes it necessary to provide certain forms of amusement and recreation which adds somewhat to the expense.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Regular Meeting, held Nov. 8, 1905.

The President, DR. JAMES M. ANDERS, in the Chair.

Morbid Physiology of Neurasthenia.

DR. WILLIAM PICKETT pointed out that the Greek root "sthen" meant strength in the sense of dynamic strength, and that asthenia was, therefore, want of endurance rather than simple weakness. In myasthenia gravis the muscles supplied by the bulb are quickly exhausted by use—asthenic bulbar paralysis Strümpell called it, from its parallelism to organic bulbar palsy. Another condition of muscular exhaustibility—asthenopia—resembles a certain organic disease—oculomotor palsy. A general exhaustibility, affecting various organs and functions, suggests by further analogy a disease of the general nervous system, which is called neurasthenia. Added to ready exhaustibility in neurasthenia is a want of recuperative power; so that in the confirmed case the patient not only tires readily, but is always tired. The symptoms of irritability in neurasthenia are apparently due to diminished control of higher centers which are fatigued, a mechanical instance of which is the increased knee jerk, explained, as in organic nervous disease, by overaction of spinal centers, partly released from the control of the motor cortex. By this reasoning, Dr. Pickett said, neurasthenia might appear as a functional brain disease. In neuropathic persons the exhaustion affects the highest centers, causing certain psychic symptoms. These, especially the obsessions (*folie du doute*, morbid fears, impulsions and imperative ideas), constitute the psychiasthenia of Janet. Neurasthenia is a simple fatigue neurosis, not to be confounded with the symptomatic states of exhaustion in phthisis, heart disease, the febrile affections, early paresis, etc. These are to neurasthenia what the "typhoid state" is to typhoid. The chemistry of fatigue does not explain neurasthenia, nor is it likely that there is actual degeneration of cortical cell bodies, as alleged by some writers.

Diagnosis of Neurasthenia.

DR. F. X. DERCUM said that in the study of a case of nervousness there should be considered: First, the three great neuroses—neurasthenia, hysteria and hypochondria; second, the various nervous states prodromal to the fully developed psychoses, such as the prodromal or developmental period of melancholia, or paranoia, of dementia præcox and the like. These states, which never present the symptom group of neurasthenia, he terms the neurasthenoid states. The symptoms they present are never truly neurasthenic, but are like or grossly resemble neurasthenia. Finally, there should be borne in mind the nervous symptoms which accompany various visceral and general diseases, organic and functional. Here again, he said, the nervous symptoms are never those of true neurasthenia; there is present merely a neurasthenia symptomatica, as in chlorosis and other blood diseases, and in diseases of the viscera. In the study of neurasthenia, in detail, the symptoms are found to be essentially those of chronic fatigue, of a fatigue which has become exaggerated and pathologic, and for this reason Dr. Dercum applies to neurasthenia the term "fatigue neurosis." Analysis of the symptoms of neurasthenia shows an expression of the sensory symptoms in generalized fatigue sensations, such as a general sense of tire and of weakness; second, in localized fatigue sensations, such as headache, backache and limbache. Of the motor symptoms there are found in varying degree muscular fatigue, muscular weakness and, above all, ready muscular exhaustion. In the psychic symptoms there is diminution in the capacity for sustained mental effort, ready mental exhaustion and diminution in the spontaneity of thought. In the somatic symptoms are noted especially atony of the digestive tract, atony of the circulatory apparatus and disturbances of the secretions, indicating weakness of defective innervation, and disturbance of the sexual functions, indicating weakness and irritability. These Dr. Dercum termed the essential symptoms of neurasthenia; the other symptoms that make their appearance are the secondary or adventitious symptoms.

Treatment of Neurasthenia.

DR. CHARLES K. MILLS regards neurasthenia as a true clinical entity. Genuine neurasthenia, relatively rare, occurs outside of the psychiatric pale. The main features in the treatment of neurasthenia are rest, the skillful use of diet, exercise, work, medicines and special measures, such as massage, electricity and hydrotherapy. No matter what treatment is instituted, suggestion properly used plays an important part. The sufferers from neurasthenia are often, if not always, neurotic or neuropathic, and for this reason the psychic treatment is important. With the co-operation of the family something can be done to secure relative rest for the neurasthenic. There should be nine or ten hours' sleep and one-day period of rest should be insisted on. This should not be less than fifteen minutes and need not be more than two hours. Massage he considered of more value than electricity, although both can be made to play important parts as adjuvants in the partial as well as in the complete rest treatment. A well-chosen mixed diet should be aimed at, although it is often necessary to begin with milk alone, to continue for some time with milk and eggs, the latter, preferably, to be given raw. Digestion and assimilation of food should be secured. Systematized respiratory exercises indoors, or golf playing, horseback riding, etc., can be resorted to, if feasible. In carrying out a complete rest treatment the first point to be insisted on is absolute isolation. Much depends on the judgment, tact and intelligence of the nurse. Mistakes are sometimes made by putting cases of mental disorder, supposed to be instances of neurasthenia, under the rest treatment. In a few cases even genuine neurasthenia does not do well under this treatment. In the rest treatment everything should be scheduled with the greatest care and accuracy. Seasonable vacations, as methods of bringing about rest, should be at least two in number; one comparatively long at the usual summer period and the other late in February or early in March. Neurasthenic attacks might sometimes be prevented, if the patient would take a period of short but complete rest, away from his usual environment, in March. Work is sometimes beneficial in the treatment of neurasthenia. Care should be taken, however, in its selection and manner of performance. In the treatment of insomnia, sulphonal and chloralamid are the most useful hypnotics, although it is often possible to produce sleep by massage and mild hydrotherapeutic measures. Little medicine is needed. The most valuable drugs are those which aid digestion, improve circulatory tone, and strengthen nerve centers. Chlorid of gold and sodium, arsenic, salts of zinc, strychnin or nux vomica in small doses, cactus, asafetida and caffein are useful agents.

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DISCUSSION.

MAJOR CHARLES A. WOODRUFF, U. S. A., spoke of neurasthenia in the tropics, with especial reference to its existence in the Philippine Islands, where the condition has been recognised sufficiently to be termed tropical neurasthenia. European physicians do not take the same view of neurasthenia as do American physicians, and consequently they are apt to call the prevailing nervous conditions by different names. The most important symptom observed in neurasthenia in the Philippines is loss of memory, which condition, in young men, disappears on their return home. Severe indigestion, accompanied by dysentery, is another form. Even a soft boiled egg, at times, causes intense suffering. In the tropics the indigestion of neurasthenia means starving to death. It is not unusual to see men carried from the hospital to the ships, apparently to die, but by the time they reach Japan there is much improvement, and on their arrival at San Francisco there has been a gain in weight of from twenty to thirty-five pounds. Major Woodruff found that among the soldiers of blonde complexion the morbidity rate is much larger than among the brunettes, almost double. This same condition exists in families; one daughter, a blonde, being decidedly neurasthenic; the other, a brunette, being comfortable and enjoying the climate. Further investigations showed that in Scandinavia, Scotland and the southern and central part of Norway there are more blondes than anywhere else in the world, and that going toward the southern end of Italy there are but few. White men who go to India do not survive the third generation. If the white man goes too far out of his dark corner death stares him in the face. The matter is regarded as interesting in its relation to tuberculous patients, and an instance was cited of a patient cured at Saranac who went to Denver, but found himself becoming exceedingly nervous. This man was a decided blonde. A comparison of the death rates of various parts of the United States shows the lowest to be in the northwest corner—Washington, Oregon and Alaska— where there is a minimum of sunshine, proving the existence of good health conditions in spite of the lack of sunshine. The practical point made was that in seeking a change of climate blondes should not be sent south.

DR. WHARTON SINKLER thinks it as common to find cases of unrecognized neurasthenia as to find cases of organic disease diagnosed neurasthenia. He regards neurasthenia as a fatigue neurosis. The condition is more common and more obstinate in men than in women. The treatment depends not so much on the means of the patients as on the temperament. Some do well under the ordinary rest treatment; others by being driven to exert themselves when they feel a disinclination to action.

DR. JOHN K. MITCHELL said that he has seen a case of dilated stomach, one of locomotor ataxia in the early stages, but distinct, and two cases of Bright's disease, which had been diagnosed neurasthenia. A very important—and, perhaps, a neglected—part of the treatment is punctuality and accuracy. Mild neurasthenic cases may be treated successfully by the mere regulation of their lives. The cardinal symptom of indecision is helped, because there is nothing to decide; certain things are to be done at stated hours. This treatment might be made to include a man's business or a woman's household duties. In fact, the whole object of the treatment of neurasthenia, the conservation of energy, can only be secured by rest and punctuality.

DR. CHARLES W. BURR cited a hospital case which had been diagnosed as one of neurasthenia. The patient died suddenly and the autopsy showed the case to be one of fatty heart. True neurasthenia is not a common disease. Too often hypochondriasis is included as a part of neurasthenia. Rest treatment for such patients is not successful, and this is responsible for the belief held by many that the rest cure possesses little merit.

DR. WILLIAM G. SPILLER emphasized the fact of the frequency of association of hysteria and neurasthenia, not, however, in the sense of being different manifestations of the same neurosis, nor that the association is the same as that of mania with melancholia; but, he believed that later on there will be found a closer association than is now thought to exist.

DR. A. C. BUCKLEY said that in a number of cases of post-traumatic neurasthenia, there occurred, after the shock passed off, a temporary period of almost normal health before the appearance of the true neurasthenic symptoms. This, he thought, was contrary to the natural expectation, that the symptoms would follow more or less closely on the apparent injury.

DR. FRANK WOODBURY referred to a class of cases suffering from the injurious effects of water gas which are apt to be diagnosed neurasthenia. He cited some instances and thought that in the consideration of neurasthenia such cases might be included under a group of toxic neurastheniaa. In treatment the first step is to adjust the patient to his environment.

Therapeutics

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns.]

Ointments in Nasal Affections.

In considering the therapeutic value of ointments in the treatment of diseases of the nose, L. S. Somers, in *Merck's Archives*, states that clinical experience has demonstrated that better results are obtained from this form of medication than from any other. Ointments protect the membranes and upper lip from irritating discharges and, therefore, are soothing. The application of ointments does away with the danger of douches or washes which are so frequently used by patients troubled with catarrhal conditions of the nasal passages, with the accompanying danger of infection of the middle ear by way of the Eustachian tube. Unlike the use of ointments in diseases of the skin, the consistency is of great importance for nasal application. Wool fat (lanum or lanolin) may be used as a base after being rendered sterile.

When these applications are made by the physician the ointment should be applied on a cotton tuft wound tightly on an applicator. The author recommends placing the ointments in a collapsible tube for the patient's use at home. With the head thrown backward, he can insert the tube into one nostril and then into the other. The nostrils should be thoroughly cleansed previously to introducing the ointment. Of the various diseases of the nasal passages in which ointments may be employed either as curative factors or in allaying symptoms, acute rhinitis, according to the author, is probably the most frequent, and this is often relieved in both its early and later stages. During the early part of the disease, when acute coryza is present, the active principle of suprarenal gland is of great service, applied in the following combination:

℞ Adrenalin	gr. 1/2	03
Olei geranii	m. i	06
Lanolini	ʒi	30

M. Sig.: Apply locally to the nares.

The author states that while the strength of adrenalin in the foregoing formula is about the same as the 1 to 1,000 normal saline solution, its action is greatly prolonged and the results are much more satisfactory. It should be used by the patient from two to four times daily, depending on the severity of the coryza. This combination is also of service in such vasomotor conditions as are accompanied by excessive secretion, and in acute exacerbations of chronic rhinitis which is unaccompanied by organic changes.

During the later stages, when the secretion consists of tenacious mucus or becomes mucopurulent in character, one of the following combinations is recommended:

℞ Olei eucalypti	m. xl	2 65
Acidi borici	ʒii	8
Liq. petrolati vel:		
Lanolini q. s. ad	ʒi	30

M. Ft. unguentum. Sig.: Apply a small portion in the nostrils several times a day and inhale forcibly.

This will tend to render the secretions less tenacious and at the same time it will aid in restoring their normal character.

The following may be used under similar circumstances:

℞ Mercurie sulphatis flavi.....gr. ii |12
Lanolini .....℥i 30|

M. Sig.: Apply a small portion to the nostrils several times a day.

When the secretion is profuse the following is recommended:

℞ Acidi gallici .....℈i 4|
Unguenti belladonnæ .....℥ii 8|
Lanolini .....℥vi 24|
Liq. petrolati q. s. ad.....℥i 30|

M. Sig.: Apply a small amount locally to the nares several times a day.

In vasomotor conditions of the turbinal tissues various remedies prescribed in the form of ointments are especially beneficial in checking excessive secretion and in relieving the obstructions to the nasal respiration. When the tissues are edematous relief may often be obtained by the application of the following ointment two or three times daily:

℞ Quininæ sulphatis.....gr. iiss-viii |15-.50
Lanolini .....℥ss 15|

M. Ft. unguentum. Sig.: Apply locally two or three times a day. Or:

℞ Ichthyoli .....℥ss-℈i 2-4|
Lanolini .....℥ss 15|

M. Ft. unguentum. Sig. To be applied locally two or three times a week by the physician.

The foregoing is to be used when the irritability to the mucous membrane is not great.

In hyperesthetic rhinitis, not of the true hay fever type, but accompanied by attacks of sneezing and irritability of the nares, a combination similar to the following is recommended as a protective to the mucous membranes and for its soothing qualities:

℞ Ung. hamamelidis .....℥ss 15|

Sig.: Apply locally to the nasal mucous membrane. Or:

℞ Ung. zinci oxidi.....℥iii 12|
Lanolini .....℥v 20|

M. Ft. unguentum. Sig.: Apply locally two or three times daily.

In some cases belladonna may seem preferable to the foregoing, combined as follows:

℞ Ung. belladonnæ
Lanolini, ää.....℥ii 8|

M. Ft. unguentum. Sig.: Apply locally once or twice daily.

In cases in which the hyperesthesia is of comparatively short duration and it is not desired to continue the treatment for any great length of time the following combination is recommended by the author as one which will cause the symptoms to subside rapidly and the reflex sneezing to stop:

℞ Cocainæ hydrochlor.....gr. v |20
Olei eucalyptus.....m. x |65
Lanolini .....℥i 30|

M. Ft. unguentum. Sig.: To be applied locally by the physician as the individual case requires. [Cocain, however, should be used cautiously.—ED.]

The habit of cocain must be avoided in the use of the foregoing combination as well as in the following combination, which may be used in cases of true autumnal catarrh or hay fever.

℞ Cocainæ hydrochloratis.....gr. x |65
Menthol (crystals).....gr. xx 1|30
Olei amygdalæ exp.....℥ii 8|
Ung. zinci oxidi q. s. ad.....℥i 30|

M. Ft. unguentum. Sig.: Apply locally by means of a cotton applicator to the nasal mucous membranes, two or three times a day, depending on the severity of the attack.

In cases in which the obstruction is the most prominent symptom of hay fever the following is recommended:

℞ Menthol (crystals) .....gr. iiss-viii |15-.50
Lanolini .....℥ss 15|

M. Ft. unguentum. Sig.: To be applied locally, as often as necessary, by the patient.

As stated by the author, however, when there is a marked increase in the amount of fibrous tissue, the employment of ointments is of no value, as would be the case with any medicinal application which produces no destruction of tissue.

In some cases in which there is slight thickening or induration of tissue the following combinations are recommended:

℞ Ichthyoli .....℥i 4|
Olei bergamot.....m. v |30
Ung. zinci oxidi.....℥vii 28|

M. Ft. unguentum. Sig.: Apply locally. Or:

℞ Bismuthi subgal.....gr. xx-xl 1|30-2.60
Lanolini .....℥i 30|

M. Ft. unguentum. Sig.: Apply locally.

The foregoing should be applied to the nares two or three times a week by the physician, and the patient should be instructed to use either the adrenalin or menthol ointments several times a day during the intervals.

In rhinitis sicca the following is recommended:

℞ Olei eucalyp.....℥ss-i 2-4|
Lanolini .....℥i 30|

M. Ft. unguentum. Sig.: Apply locally at bedtime.

In those cases further advanced and regarded as true atrophic rhinitis, accompanied by excessive dryness, crust formation and offensive odor, the membranes must be thoroughly cleansed and the crusts removed. After this the following ointments are of value:

℞ Hydrargyri oxidi flavi.....gr. v-x |30-65
Olei bergamot.....m. v |30
Lanolini .....℥i 30|

M. Ft. unguentum. Sig.: To be applied locally by the patient. Or:

℞ Ichthyoli .....℥ss-i 2-4|
Menthol (crystals) .....gr. v-viii |30-.50
Lanolini .....℥i 30|

M. Ft. unguentum. Sig.: A small amount to be inserted into the nostrils at bedtime.

The following are of value applied by means of tampons:

℞ Iodoformi .....gr. xx-xxx 1.30-2|
Olei eucalyptus.....m. v |30
Lanolini .....℥i 30|

M. Ft. unguentum. Sig.: Apply to the nares on tampons.

The foregoing is especially valuable when the fetor is marked.

Ointments are the most essential means of treatment in any case in which erosions of the mucous membrane or perforations of the septum are present, whether specific or otherwise. They not only prevent crust formation, but stimulate the parts to healing. For this purpose mercury is recommended as follows:

℞ Ung. hydrarg. nitratis.....℈i 4|
Lanolini .....℥i 30|

M. Ft. unguentum. Sig.: Apply locally in specific cases. Or:

℞ Ung. hydrarg. nitratis.....gr. xx 1|30
Ung. hydrarg. oxidi rubri.....℥ss 2|
Lanolini .....℥i 30|

M. Ft. unguentum. Sig.: Apply locally to the edges of the perforation.

Medicolegal

Makes Recording of Certificate More Important.

Chapter 136 of the Laws of South Dakota of 1905 amends Section 23 of the medical practice act of that state by incorporating the words here inclosed in quotation marks, making the second paragraph of the section read: Any person who shall practice medicine or surgery or obstetrics in any of their branches in this state without having obtained a license as in this act provided, "and had such license recorded in the office of the register of deeds of the county in which such person resides and practices, as hereinabove provided," shall be guilty of a misdemeanor, etc.

To Secure Pure Foods.

Chapter 114 of the Laws of South Dakota of 1905 is entitled: "An act to provide for a state food and dairy department; to prevent the adulteration, misbranding and imitation of foods, beverages, candies and condiments, and regulating the manufacture and sale of dairy products." One of its many provisions is that it shall be unlawful for any person to manufacture, sell, offer or expose for sale any article of food to which has been added formaldehyd, borax, boracic

acid, benzoic acid, sulphites or sulphurous acid, salicylic acid, abrastol, beta-naphthol, fluorin compounds, saccharine or coal tar dyes. In Chapter 135 is an act relating to inspection of meats, slaughter houses and markets.

Females to Accompany Female Insane Patients.

Chapter 74 of the Laws of New Jersey of 1905 provides that whenever any female insane patient is to be removed from any county almshouse to a state hospital or asylum for the insane, or from one state hospital or asylum for the insane to another state hospital or asylum for the insane, or from the home of such insane patient to an almshouse, hospital or asylum, or when returned from such institution to her home, it shall be the duty of the court under whose order such patient is committed, or of the freeholders or commissioners of the county, or the overseer of the poor of the district to which such patient is chargeable, if not committed by the court, to provide a female attendant for every female patient in transit, at the expense of the proper county or poor district.

Adulteration with Methyl or Wood Alcohol Prohibited.

Chapter 100 of the Laws of New York of 1905 amends Section 165 of the agricultural law by adding the provision that in case of food an article shall be deemed to be adulterated if it contains methyl or wood alcohol, in any of its forms, or any methylated preparation made from it. Chapter 122 amends the public health law by adding to Subdivision A of Section 41, relative to adulterations, the provision that, in case of drugs, an article shall be deemed to be adulterated if it contains methyl or wood alcohol, in any of its forms, or any methylated preparation made from it. It also adds a similar provision with regard to food, under Subdivision B, while Subdivision C, relative to spirituous, fermented and malt liquors, and Section 46, relative to wines, are made to declare against their adulteration with methyl or wood alcohol in any of its forms.

Disclosure of Professional Information.

Chapter 331 of the Laws of New York of 1905 amends Section 834 of the code of civil procedure to read as follows: A person duly authorized to practice physic or surgery, or a professional or registered nurse, shall not be allowed to disclose any information which he acquired in attending a patient, in a professional capacity, and which was necessary to enable him to act in that capacity; unless, where the patient is a child under the age of 16, the information so acquired indicates that the patient has been the victim or subject of a crime, in which case the physician or nurses may be required to testify fully in relation thereto on any examination, trial or other proceeding in which the commission of such crime is a subject of inquiry. Nothing in this act contained shall affect any actions or proceedings now pending. This act shall take effect Sept. 1, 1905.

Commitment Authorized of Users of Narcotics.

Chapter 3 of the Public Laws of Maine of 1905 provides that a person alleged to be suffering from the effects of the use of an opiate, cocain, chloral hydrate, or other narcotic may be committed to the care of any general hospital receiving aid from the state, or any legally qualified physician of not less than five years' actual practice, for treatment; and the medical authorities of said hospital or said physician to whom said patient is committed shall have the power and authority to restrain said patient so committed in such manner as may be necessary for his protection for a period not exceeding ninety days. But before any restraint shall be imposed under the authority of this act, a voluntary agreement shall be made in writing by the person suffering from the effects of any drug above mentioned, to the imposition of restraint on his actions, if necessary, and such agreement must be witnessed by the husband, wife, or parent of the person aforesaid, or one of the muncipal officers of the city or town in which the person, suffering as described in this act, is a resident, and approved, after reasonable notice, by a justice of the Supreme Judicial Court or a judge of the Superior Court or Probate Court in the county where the patient resides. Any justice of the Supreme Judicial Court, or a judge of the Superior Court or Probate Court in the county where the patient resides, may, at his discretion, require the president or secretary of the state board of health, or one of the county examiners of insane criminals, to investigate as to the progress of any such case; and, on his certificate that further restraint is unnecessary, may annul the agreement, and the person restrained shall be immediately released on the order of said justice.

Provides for Destroying Mosquito-Breeding Areas.

Chapter 80 of the Laws of New Jersey of 1905 is: "An act to provide a method for locating and destroying mosquito-breeding areas, authorizing appropriations for said purposes and providing state aid for freeing salt-marsh areas from mosquitoes." It provides that it shall be lawful for the mayor, or executive officer, or the board of health of any city, borough, incorporated town, village, or the governing body or board of health of any township or county to make request in writing to the director of the agricultural experiment station in the state, or to the person appointed by said director for the purposes of this act, to investigate, or cause to be investigated, the source of breeding places of mosquitoes which may or do infest said city, etc.; and it shall be the duty of such director, or the person appointed by him, as soon as may be, to investigate, or cause to be investigated, the source or breeding places of such mosquitoes, and he shall as soon thereafter as possible report to the officer or body making such application the results of the investigation made, and also the measures that should be adopted to destroy such breeding places, or render them free from future mosquito breeding. Whenever an investigation shows that the mosquitoes infesting the community and causing the nuisance complained of are those breeding on the salt-marsh areas within the jurisdiction of any city, etc., and a copy of the report shall be sent to the board or boards of health of the municipality or municipalities in which the breeding places are situated, attaching statements specifying the localities affected by the marsh-breeding areas, the extent of the dangerous area, the character of the work necessary to prevent further mosquito breeding and the probable cost of the work required in each municipality, the governing body of the municipality may, on the written request of its board of health, appropriate 75 per cent. of the sum required to complete the work, and the director of the agricultural station may, out of money appropriated by the state for this purpose, together with the appropriation of such municipality, complete the work; provided, that not more than $500 from said state aid appropriation shall be expended in any one municipality in any one year.

More About Alcoholics Labeled as Medicines.

Internal Revenue Circular No. 676, issued by Commissioner Yerkes under date of Nov. 24, 1905, states that since the ruling of Sept. 12, 1905, in Circular No. 673, reported on page 1025 of THE JOURNAL of Sept. 30, 1905, was made, manufacturers of preparations referred to in that ruling and wholesale druggists and retail druggists handling them have demonstrated that large losses would occur to them if the ruling was made effective on Dec. 1, 1905. They said that in good faith and under rules heretofore controlling they had purchased these compounds in large quantities, had them in stock, and that it would be impossible to dispose of them by the date originally stated. After careful consideration of this phase of the case, and to protect those who in good faith had engaged in the sale of these preparations, this office has determined to make the order effective as against manufacturers on Jan. 1, 1906, instead of Dec. 1, 1905. With regard to all handling these preparations as retail dealers, both druggists and other merchants, the order will be made effective April 1, 1906, the beginning of the last quarter of the current fiscal year.

It is further stated that it was the purpose to make public announcement before Dec. 1, 1905, of the various preparations found by analysis to be within the terms of the ruling of September 12. By reason of the care given in making analyses of these compounds the office has been unable to complete the examination of all such compounds now on the market. However, it has made analyses of the following preparations and finds that they are within the terms of the ruling of Sept. 12, 1905: Atwood's La Grippe Specific, Cuban Gingerie, De Witt's Stomach Bitters, Dr. Bouvier's Buchu Gin, Dr. Fowler's Meat and Malt, Duffy's Malt Whisky, Gilbert's Rejuvenating

Iron and Herb Juice, Hostetter's Stomach Bitters, Kudros, Peruna, Rockandy Cough Cure. This office will continue to make analyses of other preparations similar to those already examined, and will announce from time to time the conclusions reached. Until public notice is given as to other preparations than those above named, manufacturers of same, druggists, and others handling these preparations will not be held liable for special tax for other articles than those set forth herein, provided that the compounds are sold in good faith as medicines.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

December 2.

1 *Results of the Open-air Treatment of Surgical Tuberculosis. W. H. Halsted, Baltimore, Md.
2 *Action of the Roentgen Rays on the Blood; An Experimental Study. R. S. Morris, Ann Arbor, Mich.
3 *Speech Training as a Factor in the Development of the Feeble Minded. G. H. Makuen, Philadelphia.
4 Value of Chloretone and Sulphonal in the Treatment of Insomnia. J. S. Christison, Chicago.
5 Approximate Measures of the United States Pharmacopeia. M. I. Wilbert, Philadelphia.
6 *Aseptic Management of the Umbilical Cord. J. T. Schell, Philadelphia.

1. Open-air Treatment of Surgical Tuberculosis.—Halsted refers briefly to the open-air treatment of surgical tuberculosis on the "bridge" of the Johns Hopkins Hospital, and describes in detail the splendid results obtained by the open-air treatment of private patients. He says that most patients with surgical tuberculosis will recover without operation if they are given a fair opportunity in the open air. Halsted questions the necessity and wisdom of overfeeding and the value of tuberculin as a means of deciding when to discontinue fixation and to permit the use of the affected joint. He is of the opinion that a definite reaction probably could be obtained in all so-called cured cases. He says that it is the surgeon's duty not only to advise out-of-doors living, but to see that his instructions are carried out as it was intended they should be.

2. Action of Roentgen Ray on Blood.—Morris has undertaken the study of the more immediate effect on the blood of moderately long, continuous exposures to the Roentgen ray. He epitomizes his results in the following conclusions:

1. The Roentgen rays cause a marked diminution in the absolute number of leucocytes in the peripheral circulation.
2. Preceding the leukopenia, there may be a moderate rise in the number of leucocytes from 8 to 12 hours after the exposure, the increase being due largely to the greater number of polynuclear cells in the circulation (observed only in the rabbit); the same condition may be found just at the end of the exposure, subsiding rapidly.
3. The lymphocytes are especially susceptible to the action of the rays; they are affected first and most intensely.
4. Alterations in the histologic characters of the lymphocytes and polynuclear amphophiles may be found in the rabbit, similar to those described in the lymphoid tissue and bone marrow.
5. Hard tubes produce the most marked changes in the leucocytes.
6. No noteworthy numeric or histologic alteration takes place in the red blood cells within the first few hours following exposure; the percentage of hemoglobin is not essentially affected within the same time.

3. Speech Training as a Factor in the Development of the Feeble-minded.—Makuen considers defective speech a physical and mental sign of feeble-mindedness, and that it may be the cause as well as the result of feeble-mindedness. He refers to the case of a boy who was thought to be feeble minded, and who is now a successful business man as the result of the removal of some mechanical obstructions to the normal development of the organs of speech and the correction by training of the faulty mental and speech habit. Other cases are cited to illustrate the difficulties of diagnosis and prognosis.

6. Aseptic Management of Umbilical Cord.—Schell describes a method used by him for some time which entirely does away with the old infected and rotting stump. As soon as the child is born the umbilical cord is clamped with a hemostat about three inches from its abdominal attachment; another hemostat is then placed a short distance from the first one toward the placental end of the cord, and the cord is then cut between. The child is now wrapped in its aseptic receiving blanket and placed to one side, and the whole attention is given to completing the delivery of the mother, including possible repairs of perineum, etc. After the third stage of labor is completed the vessels in the cord, as a rule, have ceased pulsating. The cord and abdominal wall immediately surrounding it are carefully washed in a 1 to 4,000 mercuric chlorid solution. The hemostat is then grasped in the left hand, and a pair of scissors in the right hand follows the skin amniotic junction until this is severed completely in its entire circumference. Care must be taken not to cut too deeply, as the vessels of the cord are usually very close to the amniotic covering. Schell says that even if they are cut, no serious hemorrhage will result, as the circulation, as a rule, by this time has practically ceased through these vessels. As soon as the vessels have been exposed, the amniotic covering and the Wharton's jelly are stripped away in a direction from the abdominal walls and a ligature consisting of a piece of very fine (No. 0) sterile catgut is then thrown around the vessels, and the cord is severed close to the ligature. The stump is washed in mercuric chlorid solution, dried with a piece of sterile gauze, and dusted with any good antiseptic dusting powder. The baby should not be put in the tub for about a week, but should be given a lap bath; the stump must be washed frequently in a boric acid solution, and a small amount of dusting powder used with the usual sterile pad and the abdominal bandage.

Medical Record, New York.

December 2.

7 *System of American Hospital Economy. A. G. Gerster, New York.
8 *Essential and Paroxysmal Tachycardia. J. J. Morrissey, New York.
9 *Subcatabolic Mechanism Involved in the Etiology of Common Colds. H. Wakefield, New York.
10 *Test Feces; Their Value in the Recognition in Intestinal Disturbances Taking Their Origin in Other Parts of the Digestive Tract. H. Stern, New York.
11 *Medical Education. E. Castelli, New York.
12 *Valvular Closing of the Gall Bladder After Operation. H. E. Rockey, Portland, Oregon.

7. American Hospital Economy.—In analyzing the conditions which underly the extravagance and waste in hospital management in this country, Gerster emphasizes the necessity for more active participation in the executive control by the members of the hospital staff. The plans or organization of the great hospitals of Hamburg, Berlin, Vienna and Budapest are described in detail, the essential features being that the position of the lay superintendent of American hospitals is occupied by one or more salaried medical directors, the attending staff is very limited, so that the service is a permanent one with salaried visiting physicians and surgeons, and the house staff also is composed of paid assistants, whose positions are permanent. In this way all those concerned are able to give the necessary time to details of economical management, and also acquire the experience necessary to carry them out with effect. The present plan of conducting hospitals here resembles that in use in medieval Europe, and the author predicts that sooner or later a system similar to that now employed in Europe must be adopted.

8. Tachycardia.—Morrissey classifies tachycardia under two main heads—essential and paroxysmal, and two subheads—true and false. Permanent disease of the heart muscle best illustrates true tachycardia. The false variety, he says, may be produced by causes far removed from the heart. There are certain definite peculiarities which distinguish true tachycardia from the evanescent "heart hurry" so frequently produced by the most trivial causes. 1, The attack is sudden in its onset, reaching its height almost immediately; 2, the patient may or may not be entirely unconscious of the great degree of palpitation; 3, there is generally a definite period covered by the attack; 4, the reversion to the normal condition is as sudden as the onset, the vestiges of the storm through which the patient has passed rapidly disappearing. Morrissey concludes by saying that the treatment of tachycardia is that of the condition from which it arises or with which it is associated, but it must be remembered: 1, That essential tachycardia is not accompanied with indigestion; 2, that paroxysmal tachycardia and the forms of tachycardia, accompanied by signs, no matter how slight, of Basedow's disease, are very frequently associated with dyspepsia; 3, that extreme cardiac arrhythmia frequently

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occurs without any indication of stomach disease, and, 4, that tachycardia in its various grades is, however, often but a symptom, a prominent expression of a neuropathic state, which requires to be approached for treatment from many sides.

9. **Subcatabolic Metabolism of Colds.**—According to Wakefield, colds represent the results of disorders of metabolism due to local circulatory disturbances following the unusual exposure to cold of some part of the body. The degree of temperature is subordinate to the state of inequality produced, for a cold may be due to the extrinsic effect of either cold or heat, if sufficiently pronounced or abrupt to insure a localized action of definite heterogeneity from the balance of the organism. Wakefield has discovered that protoplasm as such is subject to the general laws that heat causes expansion and cold contraction, or, in other words, cold heightens, and heat lowers the specific gravity of protoplasm in general, not excepting that of the parenchyma. In analyzing the mode of origin of a common cold Wakefield says that primarily a condition of disequilibrium is produced. An individual, during a period of normal heat balance, gets wet, cold feet; a state of contraction of the tissues of the lower extremities is attained, the blood is ejected from the peripheral vascular areas to the more roomy reservoirs of the splanchnic veins, which readily dilate to receive it, with the result that a pernicious splanchnic venous stasis is produced, concurrent with a capillary and arterial blood deficiency in the extremities and with an inevitable suboxidation of the dependent tissues in the extremities.

10. **Value of Test Feces in Diagnosis.**—Stern discusses the alterations produced in the stools in cases of intestinal disorder associated with gastric, hepatic or pancreatic disease. He believes that many of the transitory and milder intestinal disturbances are the result of gastric disease. Stern says that according to the extent and duration of the secondary, or intestinal affection other pathologic elements may be found admixed with the fecal masses, but the exhibition therein of large amounts of connective tissue fragments invariably points to the gastrogenous causation of the intestinal disturbance, no matter how completely the phenomena due to the latter may overshadow all subjective gastric symptoms. Disturbances of intestinal function are much more rarely the consequence of hepatic than of gastric disease. Almost all hepatogenous intestinal affections are caused by disordered biliary secretion. Stern says that biliary obstruction underlies the intestinal disorder when the test feces, 1, are excreted in very large quantities; 2, when they present a grayish-white color; 3, when the sublimate test is negative; 4, when considerable masses of the ingested fat reappear; 5, when very large amounts of fatty acid flakes can be demonstrated, and 6, when there are no pathologic amounts of other food débris present. The test feces in cases of pancreatic degeneration, contain similar amounts of fat, as those in biliary obstruction. They differ, however, from the latter: 1, by not being excreted in such large amounts; 2, by exhibiting normal quantities of biliary pigments; 3, by containing large quantities of muscle débris, which are macroscopically recognizable; 4, by frequently presenting its fatty contents in the form of globules of neutral fat, when examined under the microscope; 5, by the occasional exhibition of putrefactive changes.

11. **Medical Education.**—Castelli says that the medical student must be of mature age when he enters on his medical studies, because the lad of 22 has not the insight into the problems of life that is necessary in order to give his patient moral support and assistance as well as drugs. It is the lack of the power of mental dominance in physicians that has given to christian science and other "pathies" the position they hold. The physician should also be of the male sex, for woman, in addition to her physical infirmities, is handicapped in the practice of medicine by the fact that she is violating the fundamental principles of her being. Women have done and are doing splendid work in the profession, but it is at a mental and physical price which it is a pity that any woman should be compelled to pay. The physician furthermore in his own physical condition must be able to set an example to his patients and to make his own atmosphere one of physical rationalism. Culture and high moral qualities are also necessary to make the physician what he should be—the most tolerant of men, a man whose faith in mankind never wavers, who never permits his poise to be disturbed by the unworthy things of life or its disappointments, a man who believes in doing good and does it.

12. **Valvular Closure of Gall Bladder.**—Rockey has devised a plan of introducing the drainage tube into the gall bladder after cholecystotomy, which is intended to prevent the prolonged leakage of bile. The tube is inserted through the incision into the gall bladder, which is surrounded by a purse-string suture of catgut. The edge is turned in so as to bring the peritoneal surface into contact with the tube, and then a second purse string is placed about the first. On tightening this the first suture is invaginated into the gall bladder and a valve is formed varying in size according to the distance between the two sutures. The drainage tube should be fastened to the skin by anchor stitches of silkworm gut, to prevent the tension on the purse strings and consequent puckering of the valve. This is best done by passing a silkworm gut stitch at either side of the tube and tying a small loop above the first knot. A similar tie and loop of silkworm gut is made around the tube about one inch from the skin. A safety pin is then passed through the three loops, thus holding the tubes firmly in place. A firm dressing is applied and a bottle suspended from the bandage over the tube.

Medical News, New York.
December 2.

13 Present Fallacies in Medical Education. S. W. Lambert, New York.
14 *Is Paralysis Agitans Caused by Defective Secretion or Atrophy of the Parathyroid Glandules. W. N. Berkeley, New York.
15 Etiology, Gross Pathology, Symptoms and Surgical Treatment of Pyosalpinx. J. E. Cannaday, Paint Creek, W. Va.
16 Headache. J. N. Upshur, Richmond, Va.
17 *Studies in Agglutination in Tuberculosis. M. P. Ravenel and H. R. M. Landis, Philadelphia.
18 Substitution of Drugs in the Dispensing of the Physician's Prescription. W. J. Cruikshank, Brooklyn, N. Y.

14. **Relation of Parathyroids to Paralysis Agitans.**—Berkeley discusses the clinical relationship of absence of the parathyroids or of disturbed function of these glands to disease, and whether such disease can be cured by the administration of the dried extract of the glands. Personally he believes that atrophy or insufficiency of the parathyroid glands is, perhaps, the cause of paralysis agitans. He has administered a physiologically tested gland in 11 cases of shaking palsy in all grades of advancement. All the patients remarked on a curious increase in courage, comfort and mental energy while taking the remedy. Berkeley states emphatically that the product used should be tested physiologically beforehand and should be kept on ice till used. The initial dose of the powdered gland is one-twentieth of a grain, from two to four times daily, preferably given in a capsule; larger doses appear to produce weakness, constipation, nervousness and even an exaggeration of the symptoms of the disease. The first good effects in the patients treated were noted, as a rule, only after from 50 to 75 capsules had been taken. Nine of the patients so treated were helped; one considered himself entirely relieved while taking the remedy. In all the earlier cases the patients were greatly helped. Berkeley believes that when a more perfect form of medication is devised the results may prove more encouraging.

17. **Agglutination in Tuberculosis.**—Studies in agglutination made by Ravenel and Landis for the purpose of determining whether the reaction is of any prognostic significance in tuberculosis, and whether the resistance of the individual is increased by the hygienic and dietetic means now employed, showed that the agglutination test is not available for diagnostic purposes, and that the more advanced the disease, the lower is the agglutinating power. Patients living under favorable conditions, as at a sanatorium, have the agglutinating power distinctly increased. A low agglutinating power is of unfavorable prognostic significance. The technic employed is as follows: From 5 to 10 c.c. of blood were drawn from a vein at the bend of the elbow. The blood was allowed to stand for twenty-four hours, when the serum was drawn off and dilutions were made with a homogeneous culture of tubercle bacillus in proportions of from 1 to 5 up to 1 to 100. The homogeneous culture was grown from twelve to fourteen days in 5

per cent. glycerin-bouillon, then formalin was added in proportion of 1 to 1,000. The tubes containing the culture and serum were observed every two or three hours, but the final reading was made at the end of twenty-four hours. A positive result consisted in a clearing of the supernatant fluid, or the agglutination of small whitish clumps, usually at the bottom, but occasionally along the sides of the tube.

New York Medical Journal.

December 2.

19 Surgical Clinic of To-day; Its Status and Methods of Teaching. N. Senn, Chicago.
20 Sarcoma of the Undescended Testes. J. A. Wyeth, New York.
21 *Extrauterine Pregnancy. C. P. Noble, Philadelphia.
22 Case of Acute Lymphatic Leukemia, with Consideration of the Pathology. W. Mendelson and F. E. Sondern, New York.
23 Diagnostic Significance of Headache in Diseases of the Ear, Nose and Throat. S. J. Kopetzky, New York.
24 Reflections Concerning Pretended Therapeutic Successes Obtained by Some Practitioners of the Ophthalmologic Specialty. M. Talmey, New York.
25 Nephritis and Hematuria. (Concluded.) H. A. Fowler, Washington, D. C.

21. Extrauterine Pregnancy.—Noble has operated in 91 cases of ectopic pregnancy—in 89 by abdominal section and in 4 by vaginal incision, 2 of these requiring subsequent abdominal section. In this series one tube was involved about as often as the other. In twenty women the opposite Fallopian tube was inflamed, the conditions present being salpingitis, hydrosalpinx and hematosalpinx. In no case was a pyosalpinx present on the opposite side. Noble says that this evidence tends to support the view that infection, of mild type, of the tube is a prominent cause of ectopic pregnancy. Noble believes that the causes of ectopic pregnancy are mechanical, due either to infection of the tube, to congenital defects in the tube, or to mechanical distortions which in some way prevent the onward progress of the impregnated ovum. Seven of the patients are reported as unruptured, 13 as ruptured, and 71 as having tubal abortion. Rupture of the tube, with resulting free hemorrhage, occurred in 14 cases. Tubal abortion, complete or incomplete, occurred in 70 cases. In cases of extrauterine pregnancy like those under consideration, Noble advises immediate operation. Light anesthesia, rapidity in operating, the ligation and removal of the affected appendage, the removal of the larger masses of blood clots manually, the removal of a portion of the free blood contained in the abdomen by irrigation with salt solution poured into the abdomen from a pitcher, the dilution of the remainder by leaving the abdomen filled with the salt solution, and the rapid closure of the abdominal wound without drainage, are the characteristics of the operation which, in his judgment, offers the patient the best chance for recovery. Refinement in technic in this group of cases is to be deprecated. The deeper anesthesia necessary, the loss of time entailed, and the additional handling of the viscera will make the shock already present more severe, greatly increasing the prospect of a fatal result. The freest hypodermic stimulation with strychnin, digitalis, and camphorated oil, and the use of salt solution by hypodermoclysis before, during, and after operation, are indicated. Tubal abortion, Noble says, demands prompt abdominal section, the removal of the appendage involved, the careful removal of the blood clots, toilet of the pelvis and peritoneum, and the closure of the abdominal wound *secundum artem*. Drainage is not called for. Existing complications must be dealt with as indicated. When the opposite appendage is diseased and its removal required, it is often simpler to perform a supravaginal hysterectomy rather than a bilateral salpingo-oöphorectomy. If the vermiform appendix is adherent to the hematocele, as is frequently the case, unless the condition of the patient forbids, it should be removed. In the exceptional cases in which a large amount of blood has been lost and the condition of the patient is serious, the question will arise as to whether operation shall be immediately performed or postponed until improvement has occurred. The proper course depends on whether hemorrhage is continuing or has ceased, and also on whether the patient is so situated that the operation can be performed immediately, should evidences of recurring hemorrhage become manifest. Errors should be made on the side of prompt operation rather than on that of undue waiting. When the condition of the patient is extreme from shock and excessive hemorrhage, the rules for operation in tubal rupture apply in dealing with tubal abortion. Noble's experience with extrauterine pregnancy has impressed on him two lessons: 1. A correct and early diagnosis can usually be made if the history of the patient is carefully elicited. The diagnosis depends as much on the history as on the results of physical examination. 2. If an early diagnosis is made, the patients can be operated on while still in good or fairly good condition, with the result of securing a high percentage of recoveries. Deaths from extrauterine pregnancy are usually due either to the occurrence of hemorrhage so sudden and profuse that the patients are *in extremis* before operation can be performed, or else they are due to failure to make a diagnosis or to unwarrantable delay in resorting to operation.

Boston Medical and Surgical Journal.

November 29.

26 Our First President, Dr. Edward A. Holyoke. F. Holyoke, Holyoke, Mass.
27 *Case of Diabetic Coma, with Recovery Under Alkaline Treatment. G. G. Sears, Boston.
28 Rupture of the Intestine. F. B. Lund, Boston.
29 Malignant Disease of the Lungs and Pleura. H. Jackson, Boston.

27. Alkaline Treatment of Diabetic Coma.—Sears reports the case of a boy, 13 years old, who was treated successfully during an attack of diabetic coma by the administration of large quantities of alkalies. Immediately after his admission to the hospital, the patient was given eight ounces of sterile salt solution, containing bicarbonate of soda almost to the point of saturation, under the skin of each breast. A solution of the same drug, in the proportion of a heaping teaspoonful to the tumbler, was given by mouth to the limit of his capacity. No record of amount was kept, but, as he was very thirsty, large quantities were taken. His stupor rapidly decreased, but he remained drowsy for several days. In spite of the large doses of alkali given, the urine remained persistently acid. Sugar varied between 1 per cent. and nearly 3 per cent. under a diet which contained a little bread and considerable quantities of milk. Acetone was more frequently present in the urine than absent. The only complication of note was the occurrence of suppuration at the site of the hypodermic injections. The injections were given by means of a glass flask used as a fountain syringe. Palpation of the suppuration gave the sensation of an air cushion, and crepitation was present. The patient made a complete recovery.

Lancet-Clinic, Cincinnati.

November 25.

30 Typhoid Fever in Children. M. A. Brown, Cincinnati.
31 Pathology of Epilepsy. M. H. Hughes, St. Louis, Mo.
32 Epilepsy. J. W. Selman, Greenfield, Ind.
33 Spirochæta Pallida. M. L. Heidingsfeld and A. J. Markley, Cincinnati.

Journal of Michigan State Medical Society, Detroit.

November.

34 *Preliminary Note on the Sterilization and Absorbability of Catgut. C. B. Nancrede, F. R. Waldron and C. F. Tenney, Ann Arbor.
35 Medical Inspection of Schools. G. L. Kiefer, Detroit.
36 Wound Infection from the Use of Absorbable Etage Sutures. S. C. Graves, Grand Rapids.
37 Diagnosis and Treatment of Empyema of the Chest. A. J. Lawbaugh, Calumet.
38 Value of Early Diagnosis in Ulcerations of the Anorectal Region. L. J. Hirschman, Detroit.

34. Sterilization and Absorbability of Catgut.—This paper presents the results of the attempts made by the authors to put on a demonstrative basis the questions: (1) As to what are the best materials for ligatures or buried sutures; (2) which is the easiest and at the same time the most reliable method of sterilization, and (3) what is the durability of absorbable material when buried deeply in the tissues. Experiments conducted under the supervision of Nancrede show that sterilization by the Claudius method is entirely reliable. Strands of No. 2 catgut, wound on glass rods and pieces of large white silk, were used. The catgut and silk were immersed in an emulsion of cultures of anthrax in sterile water for 24 hours at room temperature. The Claudius solution was made by grinding together one gram of pure iodin crystals and one gram of potassium iodid and adding 100 c.c. of distilled water. The silk and catgut were immersed in the Claudius solution and removed at stated intervals. It was found that the iodin carried over on the suture material prevented the growth of anthrax spores until sufficiently diluted. That silk and catgut, soaked in an emulsion of anthrax spores

for 24 hours and thoroughly dried, are rendered free from living organisms by at most from 2½ to 3 hours' immersion in the Claudius solution. Pieces of coarse cotton grocer's twine were soaked for 24 hours in emulsions made up of distilled water and potato cultures of anthrax, potato and hay bacilli, all showing abundant spores. Cover-glasses were also smeared with these same potato cultures, both twine and cover-glasses were afterward very thoroughly dried in the incubator. Both pieces of twine and cover-glasses grew their respective bacilli when put, untreated, into tubes of beef tea. The pieces of twine and cover-glasses so prepared were all immersed in the Claudius solution and removed at intervals. These experiments demonstrated that heavy cotton grocer's twine, soaked for 24 hours in an emulsion of the spores of anthrax, hay or potato bacilli, and thoroughly dried, is rendered free from living organisms by at most 24 hours' exposure to the Claudius solution, and that cover-glasses, smeared with potato cultures of anthrax, hay or potato bacilli containing spores, and thoroughly dried, are rendered free from living organisms by at most 24 hours' exposure to the Claudius solution. The first tensile-strength experiments showed the following: 1. Tight winding of the gut markedly affects the gut physically and reduces the tensile strength. 2. Solutions of iodin and potassium iodid do reduce somewhat the tensile strength of the gut. 3. More dilute solutions do not obviate this drawback, except the most dilute examined, which is probably not sufficiently germicidal. 4. Alcoholic solutions preserve or increase the tensile strength, except in dilutions which require the addition of potassium iodid to put the iodin in solution. 5. With a knot in the continuity of the gut, greater tension was almost invariably necessary to break the iodin gut than the wet, untreated gut. 6. The iodin gut is apparently somewhat more elastic than the wet, untreated gut. The second series of tensile-strength experiments showed: 1. The tensile strength of No. 1 gut is lowered by exposure to the Claudius solution, more so in case it has previously been exposed to formalin. 2. Certain pieces of gut are absolutely worthless as ligature or suture material after exposure to the Claudius solution. 3. With a knot tied in continuity the relative loss of strength is much less. 4. In replacing unused gut in the Claudius solution, aseptic gut only must be replaced, as the iodin was present in the solution in less than one-eighth its original strength. The gut must be kept in a glass-stoppered bottle, tightly closed.

Albany (N. Y.) Medical Annals.

November.

39 Conditions Having as Symptoms Pain and Tenderness in the Right Iliac Region. J. F. McGarrahan, Cohoes, N. Y.
40 End Results in Surgery of the Kidney. A. Vander Veer, Albany.
41 *Actinomycosis Limited to the Urinary Tract. D. MacD. Stanton, Albany.

41. Actinomycosis Limited to Urinary Tract.—The case reported by Stanton was clinically one of cystitis and pyelonephritis. The actinomycotic character of the kidney lesion was not recognized during life nor at the time of the autopsy, but was discovered on histologic examination of the kidney. About two months before his death the patient began to have difficulty in passing urine. He could pass only a small amount at one time. For some time before admission he had been troubled with incontinence. The urine was low in specific gravity, 1010. The blood examination showed a hemoglobin value of only 45 per cent. There was no leucocytosis. While in the hospital the patient had an irregular temperature ranging from 99 to 103, and was slightly irrational the greater part of the time. The treatment was purely symptomatic. A histologic examination of portions of the kidneys containing abscesses disclosed colonies of actinomyces. The mode of infection in this case was doubtful, but Stanton suggests that it is more than possible that the lesion in the urinary tract was secondary to a primary focus which had existed in some other part of the body, but which had disappeared at the time of the autopsy. A small scar-like area in the colon, suggesting a healed ulcer, various peritoneal adhesions and an old scar on the outer aspect of the right thigh, each suggested antecedent inflammatory conditions offering possible routes of infection, but no connection could be traced between any of these and the lesion in the urinary tract.

Medicine, Chicago.

November.

42 Echinococcus Multilocularc. (To be continued.) W. R. Smith, South Australia.
43 Word-Blindness Due to a Lesion in the Right Cerebral Hemisphere in a Right-handed Man. C. K. Mills and T. H. Weisenburg, Philadelphia.
44 *An Adjunct to the Fresh-air Treatment of Consumption. G. T. Carpenter, Chicago.

44. Adjunct to Fresh-Air Treatment for Consumption.—There are many reasons, says Carpenter, why persons suffering from pulmonary tuberculosis can not leave their homes for a more suitable climate. To give such patients all the fresh air possible and still permit them to remain indoors, Carpenter devised an apparatus of simple construction, which consists of tubes large enough for the passage of air at normal air pressure, and light enough to be easily handled. The face piece, or mask, can have a transparent front, and is supported by a net cap, which will hold it firm in all positions. Large valves control the passage of air. The tubes are composed of coiled aluminum wire, covered with a light fabric which is impervious to air. These tubes are conducted to a panel which is fitted in an open window, with a suitable aperture to receive it, and a protecting hood on the outside. Openings can also be made through the outside wall of a bedroom to the outer air, choosing a side where the sun shines. The tubes may be detached from the opening, and the opening closed, and the apparatus can be carried to another part of the house and attached to an opening through the wall or paneled window. The mask is so arranged that it can be detached from the net cap, which is convenient in case of a desire to cough or to expectorate. The inhalation tube can be large and contain the exhalation tube, so that but one tube is in sight, and yet all exhalations are carried to the outside of the house. With this contrivance it is possible for patients to have fresh air, no matter what the state of the weather. They can also enjoy a sun bath in a superheated room, if desired, and inhale fresh air at the same time.

Texas State Journal of Medicine, Fort Worth.

November.

45 Diagnosis and Treatment of Gallstones. J. E. Thompson, England.
46 *Penetrating Wound of the Eyeball. H. C. Hayden, Galveston.
47 Abdominal Hysterectomy for Removal of Suppurating Uterine Fibroid. H. A. Barr, Beaumont.
48 Medicolegal Aspects of Insanity. J. T. Searcy, Tuscaloosa, Ala.
49 Conservative Treatment of Injuries of the Hands and Feet. E. V. Harris, Navasota.
50 Considerations Seeking a Higher Standard of Nervous and Mental Health. G. H. Moody, San Antonio.
51 Conservative Treatment of Trachoma. E. D. Capps, Ft. Worth.

46. Penetrating Wound of Eyeball.—The feature of special interest in Hayden's case was the fact that the eye which was so badly injured as to seem hopelessly lost should recover itself with comparatively little inflammatory reaction. The patient had been struck in the left eye by a flying projectile, presumably glass, from an exploding oil-carrier. After cleansing the eye, there was seen to be a somewhat vertically placed wound in the conjunctiva and sclera to the nasal side of the cornea. The margins of the wound were ragged, and its shape was that of an obtuse angle, with its apex pointing toward the cornea. The contraction of the internal rectus muscle made the wound gape. There was some blood in the anterior chamber and cloudiness of the anterior part of the vitreous. No foreign body could be found. The scleral wound was closed by one silk suture and the conjunctiva was brought together over it by two sutures. Twelve days after the injury it became necessary to make an incision with the keratome in the lower part of the cornea to allow the blood to flow out from the anterior chamber. The case went on to complete recovery, the patient regaining useful vision.

Canadian Journal of Medicine and Surgery, Toronto.

November.

52 New Conceptions of the Living Cell: Its Chemical Structure and Its Functions. V. C. Vaughan, Ann Arbor, Mich.
53 Prevention of Insanity. C. Meyers, Toronto.

The Ophthalmic Record, Chicago.

October.

54 Pterygium. T. H. Shastid, Harrisburg, Ill.
55 Vernal Conjunctivitis in the Negro. D. Roy, Atlanta, Ga.
56 Trachoma as Treated by Dr. Herman Kuhnt of Koenigsberg. F. E. Brawley, Chicago.

Vermont Medical Monthly, Burlington.
November 25.

57 Uncommon Acute Infections with Surgical Treatment. S. E. Maynard, Burlington.
58 Climatic Treatment of Tuberculosis. J. S. Horner, West Pawlet, Vt.

Chicago Medical Recorder.
November 15.

59 The Conservative Treatment of Severe Ocular Injuries. F. Allport, Chicago.
60 High Forceps, Pelvic Inlet Forceps. Its Indications and Relations to Forceps and Version. G. Schmauch, Chicago.
61 Formalin in the Treatment of Diseases of the Ear, Nose and Throat. O. J. Stein, Chicago.
62 Rare Specimen of a Roentgenogram of a Brain Tumor. M. Reichmann, Chicago.
63 Notes on the Structure, Technic and Diagnostic Advantages of the Cystoscope. F. A. Lousman, Chicago.
64 Urinary Antiseptals with Hexamethylenamine (Urotropin). J. C. Warbrick, Chicago.

Bulletin Johns Hopkins Hospital, Baltimore.
November.

65 Contributions of Pharmacology to Physiology. H. Meyer, Vienna.
66 Observations on Several Cases of Acute Pancreatitis. W. S. Thayer, Baltimore.
67 Diaphragmatic Grooves on the Liver. R. O. Moody, San Francisco.
68 Rise of the Present Conceptions as to the Cause of the Heart Beat. E. G. Martin.

Illinois Medical Journal, Springfield.
November.

69 Edema of the Lungs Following Thoracentesis. S. M. Miller, Peoria.
70 Considerations on Phlegmon of the Orbit. C. H. Beard, Chicago.
71 Nervous Cases for the General Practitioner. J. Grinker, Chicago.
72 Pneumonia in Children. J. C. Cook, Chicago.
73 *Practical Significance of Certain Common Symptoms in the Upper Abdomen. J. P. Percy, Galesburg.
74 Pathology and Diagnosis of the Lesions of the Spinal Cord and Peripheral Nerves. F. P. Norbury, Jacksonville.
75 Cases Demanding Removal of the Eye of Interest to Physician and Surgeon. J. R. Loring, Chicago.
76 Inversion of the Uterus. P. L. Markley, Rockford.
77 Ocular Manifestations of Chronic Nephritis. L. E. Schwarz, Chicago.
78 Medical Treatment of Nephritis. A. R. Elliott, Chicago.
79 Bronchoscopy for Removal of Foreign Bodies from the Lungs. E. F. Ingals, Chicago.

73. See abstract in THE JOURNAL, July 8, 1905, page 78.

Texas Medical Journal, Austin.
November.

80 Effect of Lesions of the Oral Cavity on Other Organs and on the System at Large. P. Cheaney, Dallas, Texas.
81 Abdominal Section for Fecal Impaction. J. M. Neel Bonham, Texas.
82 Hemoptysis, Causes and Treatment. L. Sexton, New Orleans, La.

Western Medical Review, Lincoln, Neb.
November.

83 Indications for Operation in Mastoid Disease. S. E. Cook, Lincoln.
84 Mastoiditis with Spontaneous Perforation into the Digastric Fossa. F. S. Owen, Omaha, Neb.
85 Diagnosis in Hemorrhage from the Gastrointestinal Tract. W. F. Milroy, Omaha, Neb.

Louisville Monthly Journal.
November.

86 Nervous Disorders of Children. J. Punton, Kansas City, Mo.
87 Illustrative Cases in Abdominal and Pelvic Surgery. L. S. McMurtry, Louisville, Ky.

Oklahoma Medical News-Journal, Oklahoma City.
November.

88 President's Address. W. T. Tilly, Pryor Creek, I. T.
89 Typhoid Fever. P. Donohoo, Afton, I. T.
90 Gastric Ulcer. F. M. Duckworth, Claremore, I. T.
91 Perineal Prostatectomy. V. Berry, Wetumka, I. T.

Northwestern Lancet, Minneapolis.
November 1.

92 Etiology and Pathology of Lobar Pneumonia. J. W. Aird, Provo, Utah.
93 Symptomatology and Diagnosis of Pneumonia. F. H. Raley, Salt Lake City, Utah.
94 General Treatment of Pneumonia. C. M. Wilson, Park City, Utah.
95 Surgical Complications in Pneumonia and Their Treatment. S. H. Allen, Salt Lake City, Utah.
96 Present Status of the Treatment of Prostatic Hypertrophy. E. O. Jones, Murray, Utah.
97 Tubercular Cyst of the Mesentery. A. E. Spalding, Luverne, Minn.

Kentucky Medical Journal, Louisville.
November.

98 The Relation of Laboratory Methods to Medicine. J. T. McClymonds, Lexington, Ky.
99 The Business Side of Medicine. H. F. Bean, Auburn, Ky.
100 Autointoxication and Infection. L. T. Eckler, Sunrise, Ky.
101 Psychic Influence as a Therapeutic Agent. A. J. McNees, Lancaster.
102 Some Advantages to be Derived from the Use of Small and Frequently Repeated Doses of Medicine. A. Dixon, Henderson, Ky.
103 First Case of Placenta Praevia Centralis. S. B. Bunch, New Roe, Ky.

Journal of the Association of Military Surgeons of the United States, Carlisle, Pa.
November.

104 Experiences During the Russo-Japanese Naval War 1904-1905. S. Suzuki, Tokio, Japan.
105 Difficulties in the Diagnosis of Yellow Fever, as Seen on the Isthmus. H. C. Curl, U. S. N.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal.
November 25.

1 *Operative Treatment of Simple Fractures. W. A. Lane.
2 Operative Interference in Fractured Clavicle. H. N. Taylor.
3 Case of Congenital Synostosis of Both Upper Radioulnar Articulations. S. Hamilton.
4 *Influence of Posture on Normal Cardiac Sounds and on Normal Cardiac Dullness. W. Gordon.
5 *An Aid to Prognosis in Typhoid. R. M. Simon.
6 Diarrhea Caused by the Bacillus Prodigiosus. L. C. Parkes.
7 *Spirochetes in Parangi (Yaws). A. Castellani.
8 John Mirfield (1360) and Medical Study in London During the Middle Ages. N. Moore.
9 Case of Traumatic Asphyxia. W. S. Robertson.

1. **Operative Treatment of Fractures.**—Lane discusses the treatment of simple fractures devised by him thirteen years ago, and cites illustrative cases.

4. **Influence of Posture on Heart.**—Gordon is of the opinion that the change in the normal heart sounds produced by change of posture may be explained, in part, at least, by the different relations of the valves to the weight of blood in contact with them in the different positions. An examination of 36 consecutive unselected cases with normal hearts showed that posture also affects the deep cardiac dullness, although in a very small number of cases the over limit of dullness rises instead of falls.

5. **Aid to Prognosis in Typhoid.**—For the last nine years Simon has made daily observations of the amount of urine passed by every patient suffering from enteric fever. He found that polyuria occurred not only in every case that was doing well, but also in many cases of great severity in which no general improvement or amelioration of symptoms could be observed. He also found that even in severe cases, if polyuria occurred, the patients all recovered. In no cases in which polyuria was noted has he known perforation to occur, and in no case has hemorrhage of any moment ever occurred after polyuria had been established. Furthermore, relapses occurred only rarely when polyuria had once begun.

7. **Parangi.**—In 7 out of 11 cases of parangi Castellani found spirochetes, one variety being identical with the organism described by Schaudinn. Peculiar oval, chromatin-containing bodies were also observed in 4 cases, 3 among those presenting spirochetes. Castellani does not offer any suggestion as to the identity of these bodies.

The Lancet, London.
November 18.

10 Pathology, Affinities, and Treatment of So-Called Bleeding Polypus (Discrete Angeioma) of the Septum. L. H. Pegler.
11 *Advanced Cancer of Breast Treated by Operation and X-ray. A. M. Sheild and H. L. Jones.
12 Bier's Osteoplastic Amputation. J. H. Pringle.
13 Case of Vesicovaginal Fistula Followed by Hematometra and Pyonephrosis. J. Phillips.
14 Glass a Substitute for Lint in the Treatment of Granulating Wounds. J. L. A. Aymard.
15 Position, Use and Abuse of Mental Therapeutics. J. W. Springthorpe.
16 Case of Gastric Tetany: Gastroenterostomy; Recovery. W. A. Mackay and I. Macdonald.
17 Diphtheria in a Patient 70 Years of Age, with Subsequent Freedom from Old Gouty Symptoms. J. Birt.
18 Action of External Muscles of Eye and Diagnosis of Ocular Paralysis. D. M. Mackay.

11. **Operation and X-Rays in Breast Cancer.**—Sheild operated on a woman aged 46 for an advanced hard carcinoma of the breast. The axillary lymph glands were removed as well as the lower portion of the pectoral muscle. Although the wound could not be closed, healing progressed satisfactorily. Four months later there was evidence of a recurrence in the intercostal spaces. Eight or ten nodules were removed, and two months afterward six more nodules were removed. A

fourth operation was done three months afterward. The patient's condition remaining unfavorable, *x*-ray treatment was advised. In addition the patient was ordered to take 5 grains of quinin hydrochlorate on the mornings of the days of the *x*-ray applications. For two months *x*-ray applications were made twice a week; then once a week. Within three weeks from the commencement of the treatment the patient's condition improved, and at present she is quite well. There is no sign of carcinoma. The *x*-ray applications were of twelve minutes' duration, the tubes used being soft or of medium hardness, and the current between 0.5 and 0.8 mp. The surrounding parts were not screened except the face, arm and forearm. There was no dermatitis or pigmentation.

Glasgow Medical Journal.

October.

19 *Radical Cure of Inguinal Hernia. J. H. Nicoll. Glasgow.
20 Pathogeneeis of Enteric Fever. A. R. Ferguson.
21 Agglutination Test in Diagnosis of Enteric Fever. R. M. Buchanan.
22 Abortive Cases of Enteric Fever. J. Brownlee.
23 Diagnosis of Peritonitis in Enteric Fever. F. Macrae.
24 Surgical Aspects of Enteric Fever. T. K. Dalziel.

19. Radical Cure of Inguinal Hernia.—The method of operating followed by Nicoll is applicable to both femoral and inguinal hernia. Its main features are: 1, The employment of the sac to form an intra-abdominal buttress over the internal aspect of the hernial aperture; 2, the use of the pubic ramus as a *point d'appui* in the process of closure of the hernial canal, and 3, the additional security of closure obtained by the superposition on the bone sutures of a plane of musculo-fascial sutures. In ordinary cases Nicoll says that his method gives results as good as, but no better than, many of the other methods in use. In severe cases—cases of large hernial aperture, or lax and atrophic parietes, or high intra-abdominal tension from omental corpulence—the method, with its double closure of the canal, by bone suture, followed by musculo-fascial sutures, attains a high degree of security. One of the main ideas concerned in the application of this method of inguinal hernia is to reinforce in such cases the defective Poupart's ligament by the backing of the pubic ramus. The treatment and final bestowal of the sac are carried out as in femoral hernia, the sac being lodged over the internal aspect of the internal inguinal ring, as a pad resting between the parietal peritoneum, on the one hand, and the fascia transversalis on the other. With blunt retractors the spermatic cord (or round ligament) is pulled upward, and Poupart's ligament downward. An incision is carried along the superior aspect of the pubic ramus. This divides the iliac fascia, the origin of the pectineus, and the periosteum; its limits are the pubic spine and the femoral sheath. Both margins of the periosteal wound are slightly detached. The bone is then drilled near its upper margin in two places, from half an inch to one inch apart. The drill-holes are situated somewhere between the pubic spine and the femoral sheath, their exact position varying with the shape and size of the hernial aperture. The drill may be applied to the bone above the level of the retracted Poupart's ligament in cases in which that is sufficiently lax to afford the necessary room for passing the drill transversely through the bone. In cases in which that is not so, the drill should be applied to the anterior surface of the bone, below the level of Poupart's ligament, and, in consequence, after perforating the pubic portion of the fascia lata. Transverse perforation of the bone is essential. Oblique perforation places the internal apertures of the drill-holes far down on the posterior aspect of the bone, and makes them more or less inaccessible. A stout absorbable ligature is passed in the form of a large mattress suture, through the internal pillar of the hernial aperture. Nicoll says that it is essential that this should have a "good bite" of the conjoined tendon and of the transversalis fascia; it may or may not include the external oblique. During the placing of the suture the peritoneum is protected by the finger passed through the canal into the extraperitoneal fat behind the internal pillar. The ends of the sutures are passed out through the holes drilled in the bone. The sutures may pass in front of the spermatic cord or behind it as may seem best to secure firm closure of the canal without undue compression of the cord. In the former procedure the cord will occupy the position of the direct inguinal hernia, in the latter that of the oblique variety. The ends of the two loops of ligature are tied separately. The tightening of the knots brings the internal pillar down into the periosteal incision, and lodges it firmly against the bone. The factor in choice of the position of both drill and ligature knots is the degree of relaxation which has occurred in Poupart's ligament. In all cases the knots should be tied firmly to lodge the internal pillar against the bone. Here the amenity of the spermatic cord is efficiently protected, as is that of the femoral vein in the femoral operation, by adjusting the position and size of the loops of suture in the internal pillar, and not by varying the tension of the knots. Should threatened compression of cord (or vein) necessitate the "replacing" of the loops, time may be saved by dividing each loop above the bone, and retaining the ends as tractors for the passage of the new sutures. The operation is completed by lifting the lax Poupart's ligament to the anterior surface of the internal pillar and fixing it there by interrupted sutures, which should be of stout catgut or other absorbable material, and should penetrate at least the external and internal oblique muscles. This final step in the operation is made possible solely by the lax condition of Poupart's ligament. It is difficult in a small hernia. The method may be modified in cases in which the operator finds himself unprovided with a drill. The anterior lip of the periosteal incision may be slightly raised, and the ends of the suture carried through it from within outward and tied there. The knot may lie above or below the level of Poupart's ligament. The operation is finished by suturing Poupart's ligament to the anterior surface of the internal pillar as described above. The closure obtained by the modified operation is less secure than when bone suture is employed, but has been found efficient.

Journal of Tropical Medicine, London.

November 1.

25 Further Note on a Form of Malarial Parasite Found in and Around Jerusalem. J. Cropper.
26 Cancer in the Gilbert Islands. A. Robertson.
27 Case of Tertiary Syphilis Obscured by Typohid Sequelæ. W. Hartigan.
28 Notes from Angola. F. C. Wellman.
29 Smallpox Inoculation in India. G. H. Fink.

Bulletin de l'Acad. de Médecine, Paris.

30 (Year LXIX, No. 36.) *Invaginations de l'appendice ileo-cæcal. Jalaguier and C. Monod.

30. Invagination of Appendix.—Jalaguier ascribes to invagination of the appendix a certain number of fatal cases of intestinal obstruction in young children. In two cases of scrotal hernia in children in which the appendix was involved he has observed that it possessed the property of vigorous contractions. At one moment soft and small, it would then grow gradually harder and larger, until it formed a stiff, curving rod, easily palpable and even visible through the walls of the scrotum. The contractions starting in the appendix were invariably transmitted to the cecum, which became hard and stiff in turn. It even seemed as if the peristaltic movements of the cecum and large intestine started in the appendix, and were propagated thence to the rest of the mechanism as the crank of the automobile starts the machinery to work. In case of disturbances in the cecum the contractions of the appendix might not be passed along, and the result would be invagination of the latter in the former. He has observed 3 cases of this kind. In the first the invagination became spontaneously reduced; in the second it was a casual discovery at an appendicectomy after subsidence of appendicitis, and in the third, symptoms of enterocolitis were accompanied by a tumor suggesting a floating kidney, which appeared and vanished at intervals. The tumor was assumed to be a recurring invagination, and the lower part of the cecum, part of the appendix and the ileocecal valve were found invaginated in the cecum, while the ileum was also invaginated to a depth of 2 cm. The patients were children from 7 to 11 years of age. Nineteen published cases of invagination of the appendix are reviewed and tabulated, and also Wallace's case in which the appendix was passed in stool, the patient having thus performed an auto-appendicectomy.

Semaine Médicale, Paris.

31 (XXV, No. 46, Nov. 15.) *Le syndrome myotonique. L. Lévi.

31. **The Syndrome of Myotonia.**—Lévi proclaims that the sarcoplasmic theory in regard to the origin of Thomsen's disease or myotonia congenita connects all the various forms of this disease while distinguishing them. This theory is based on the comparison between the myotonic syndrome and the functions of sarcoplasm, the interfibrillary substance of the striated muscles. He analyzes the literature on the subject and describes the various forms of acquired and congenital myotonia, citing typical examples of each. His arguments tend to prove that the muscular tonus, the function of the sarcoplasm, exhibits the myotonic syndrome when in exaggerated function. This myotonic syndrome may be the result of imperfect development of the muscle or of toxic or nervous irritation of the sarcoplasm.

Berliner klinischer Wochenschrift.

32 (XLII, No. 40, Oct. 2.) Practical Value of Commercial Diagnostic Fluids in Typhoid.—Ueber die prakt. Leistungsfähigkeit diagnostischer Flüssigkeiten für typhoide Erkrankungen des Menschen. P. F. Klemens (Prague).

33 *Die placentare Uebertragung der natürlichen Immunität (transmission of immunity). A. Schütz (Budapest).

34 Determination of "Dumb-bell Bacillus" in Chronic, Villus-Forming Polyarthritis, und ueber Beziehung der Syphilis zu derselben. M. Schüller.

35 *2 Fälle von Nephritis achlorica mit vikariierender Hypersekretion des Magens (of stomach). H. J. Bing (Copenhagen).

36 *Behandlung des Schnupfens der Säuglinge und kleinen Kinder (coryza in young children). K. Vohsen.

37 Intravenöse Injektionen. T. A. Maass.

33. **Natural Immunity.**—The conclusions of Schütz's investigations are that the new-born child acquires its natural immunity by way of placental transmission. The colostrum has no protective action, and when diphtheria antibodies can be found in the blood serum, they may be entirely absent from the stomach contents. The protecting power of the child's serum is never higher than that of the mother's serum. The presence of diphtheria antibodies in the blood serum of young infants does not indicate that they are actually immune to the disease, only, at most, that their receptivity has been diminished.

35. **Nephritis with Complete Absence of Chlorids.**—Bing relates the particulars of 2 cases of nephritis distinguished by the entire absence of chlorids from the urine. When the salt in the organism accumulated to a certain point it was eliminated into the stomach by an excessive gastric secretion, and this hypersecretion always induced copious vomiting. The vomiting occurred invariably after the patients had eaten much salt. The nephritis was not very severe, and conditions were finally restored approximately to normal. The albuminuria gradually subsided, the chlorids appeared in the urine, and the attacks of vomiting ceased. The freezing point of the blood had remained normal throughout, and there was no tendency to dropsy. The exact similarity between 2 cases suggests that the syndrome observed may be regarded as a special affection. The patients were a laboring man and woman in the thirties, both previously healthy.

36. **Treatment of Coryza in Infants.**—Vohsen calls attention to the fact that coryza paves the way for otitis, gastrointestinal disturbances, pneumonia and cerebrospinal meningitis, and emphasizes the importance of treating it to ward off these secondary affections. He relieves coryza in adults by reducing pain and swelling with a solution of suprarenal extract, cocain and water, applied on a cotton-wound wire. As infants are unable to blow their nose, this measure does not help them. He accomplishes the desired purpose with what he calls the air nose douche. A rubber tube about 25 cm. long, with the nose end cut slanting, is inserted in one nostril and air is blown into the nostril under moderate pressure from a rubber bulb or the mouth. Infants and small children usually resist and scream when the tube is being inserted, and this closes the entrance into the air passages below, so that the air blown in pours out at once through the other nostril. The air douche is always given on the side that is closed the most. It is repeated before the child is fed; the secretions escape with the air and are thus blown out through the other nostril. The same procedure will be found a great help for older children when there is difficulty in blowing the nose. In one instance Vohsen was thus able to release and to evacuate in the most gentle manner a complete fibrinous cast of the nose and nasopharyngeal space in a case of diphtheria in a child of 2. The air douche is also useful for diagnosing adenoid vegetations. He has never noticed anything suggesting danger for the middle ear from the air douche. Others have advocated aspiration of the contents of the nose, but this is liable to increase the hyperemia without insuring as radical cleansing as his technic. The nasal air douche has never failed to relieve the obstructed condition of the nose in young children when the latter is due merely to an acute infection.

Centralblatt f. Gynäkologie, Leipsic.

Last indexed page 1611.

38 (XXIX, No. 38, Sept. 23.) Ueber den Kaiserschnitt in der Agone und post-mortem bei herzfehlerkranken Schwangeren (Cesarean section in heart disease). Busalla.

39 Kontraktions-Ring und innerer Muttermund (internal os). O. Schaeffer.

40 Pro Domo. H. J. Kreutzmann (San Francisco).

41 (No. 39.) Proportions Between Sexes of Newborn Infants, with Special Regard to Macerated Children.—Geschlechtsverhältnis der Neugeborenen mit besonderer Berücksichtigung der mazerierten Kinder. C. J. Bucura.

42 *Elevating the Pelvis for Spinal Anesthesia.—Beckenhochlagerung bei Rückenmarksanästhesie. R. Freund (Veit's clinic, Halle).

43 *Die Bier' sche Stauung in der gynäkologischen Praxis (congestive hyperemia). J. Rudolph.

44 (No. 40.) *Untersuchungen ueber das Wesen der Eklampsie (nature). M. Roth.

45 Ueber die sekretorischen Fähigkeiten des amniotischen Epithels (secreting capacity). O. Poiano.

46 Zur Kasuistik und Technik der Hebotomie.—Eine neue Hohlsondennadel zur Einführung der Gigli'schen Drahtsäge (needle for introducing wire saw). L. Seeligmann (Hamburg).

47 *Wechselnder Tonus der Gebärmutter auf intra-uterine Reize hin (varying tonus of uterus). O. Schaeffer.

48 (No. 42.) *Zur Pubiotomie. K. Reifferscheid. Id. H. Hohlweg.

49 (No. 43.) Behandlung des intraperitonealen Bluterguesses nach Tuben-Ruptur (hemorrhage). H. Füth.

50 *Ein neues Operations-Verfahren zur Heilung des totalen Prolapses bei klimakterischen Frauen. T. Landau (Berlin).

51 Missed Labour bei Placenta praevia centralis. Chvojka.

42. **Spinal Anesthesia with Elevated Pelvis.**—Freund had occasion to operate in 2 cases of carcinoma of the cervix requiring the elevation of the pelvis. The operation was done under spinal anesthesia induced with 0.06 gm. stovain and a little extract of the suprarenal gland and salt, the combination known as Billon's mixture. The anesthesia was complete in four or five minutes and lasted for an hour and a quarter to two hours. One of the patients showed minimal symptoms of collapse, weaker pulse, cold sweat on the face and slight groaning, but these symptoms were slight and transient. The second patient had only the two last symptoms in an almost imperceptible degree. There was no pain, and after the operation the patients were entirely free from vomiting, headache or fever, and did not present the appearance of having just passed through a severe operation. One left her bed the fourteenth day and the hospital the seventeenth. The other was so debilitated that a longer period was necessary for her to regain strength. In 5 other cases of tuberculous peritonitis, echinococcus of the mesentery, carcinoma of the ovary or myoma with carcinoma of the ovary, spinal anesthesia by this technic, with the pelvis raised, gave invariably excellent results.

43. **Bier's "Passive Congestion" in Gynecologic Practice.**—Rudolph discusses the three ways in which Bier induces artificial congestive hyperemia: by superheated air, by constricting the limb above, and by the suction of an air pump. The superheated air acts in the same way and is fully as effective as irrigation with hot water, and can be used for the same indications. He gives illustrations of the wood, asbestos and metal, bent, flaring tube which he uses when applying superheated air to the vagina. Also of the solid glass speculum with a cork plug in the flaring end, through which passes a tube from a vacuum pump. By inducing suction with the pump the parts can be seen to swell and become dark red in color. Some blood usually accumulates in the speculum. This local suction is indicated in case of inflammatory processes in the cervix or corpus uteri. The result obtained depends on the greater or less stability of the tonus of the vessel nerves. The uterus as a whole is liable to be influenced by this stimulation of the nerves. Most of the women complained of labor-like pains after the suction had lasted some time. Amenorrhea is often favorably influenced. Suction might also prove an excellent preliminary to dilatation of the internal os. It makes the tis-

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sues softer, collects blood in them and renders them less sensitive. The suction speculum is merely a glass speculum, syringe and tube, and the *modus operandi* is extremely simple. The blood-drawing action of the vacuum suction suggested to him that possibly the opposite—the compression with air—might have the contrary effect and check bleeding. He tried this measure in 2 cases, filling the vagina with filtered air under pressure. This pneumatic tamponing accomplished the desired result very promptly. He does not think that there is danger of air embolism except in case of a recently delivered uterus, but still great caution should be exercised with this air tamponing. By alternating suction and compression from the vacuum pump, it might prove possible to draw down and to push up the uterus in turn, thus massaging its supporting ligaments and toning them up if relaxed.

44. Nature of Eclampsia.—Reeb has succeeded in isolating from the urine of eclamptic women a yellowish, insoluble mass which induces paralysis when injected into frogs and guinea-pigs. This substance was never found in the urine of normal parturients. He also pulverized the brains of two women dead of eclampsia and found that the powder induced progressive paralysis in rabbits. He suggests the possibility that in the organism of the pregnant woman or in that of the fetus or in the placenta, some tetanizing poison may be produced which is eliminated without disturbance under normal conditions, but which accumulates and causes intoxication in case its elimination is interfered with in any way. He suggests, as an analogy, samandarin which is a normal metabolic product of the salamander, but which has first an exciting and then a paralyzing action.

47. Varying Tonus of Uterus in Response to Intrauterine Stimuli.—Schaeffer proclaims that the varying tonicity of the uterus is due to vasomotor as well as to purely motor influences. It is a co-ordinate function. Every dilating stimulus emanating from the internal os has a regular, dilating influence, even on the non-gravid uterus. The fundus balloons out regularly on all sides and stretches upward. The grating during curettement is due to the formation of ledges by the especially strongly contracting muscularis. The uterus of nulliparæ is not capable of a high degree of relaxation. A predisposition to a high degree of relaxation is afforded by retroflexed and originally hypoplastic uteri, by those with edematous myometritis and in anemic multiparæ, in uteri after abortion with metrorrhagia and in cases of degeneration of the ovaries. The uterus in these cases may bag out or may be asymmetrically stretched. The difference may be from 2 or 3 cm. to 11 or 12 cm., and is noted when the sound is introduced into one of the horns of the fundus. The uterus should be curetted only with a blunt spoon in such cases. If it measures longer than from 12 to 14 or 15 cm., this suggests the suspicion of defective involution of the entire fundus, especially of one horn after an early abortion. Schaeffer's experience has shown further that affections of the adnexa causing metrorrhagia also induce a predisposition to a lively alternating tonus, similar to that of pregnancy, and from this up to paralysis. The sound may show a difference of from 8.5 to 10.25 cm. during a single examination of the subinvoluted uterus. Perforation may occur without the slightest sensation of resistance, and even with a wide metal dilator, but always and exclusively in the vicinity of the tubes.

48. Extramedian Symphyseotomy or Pubiotomy.—These two communications each describe 4 cases in which women were delivered by sawing the pubic bone on one side. The results, both immediate and remote, were most excellent.

50. Operation for Total Prolapse of Climacteric Women.—The main features of the technic which Landau describes are the fixation of the posterior part of Douglas' cul-de-sac to the highest part of a sagittal incision in the vagina. The operation is a kind of incomplete extirpation of the uterus with this permanent fixation of Douglas' pouch. A muscular support is retained from the rear wall of the cervix or corpus uteri or both, and the cul-de-sac is thus strengthened by resistant tissue, so that it can hold up the contents of the abdomen. The operation is a combination of an exaggeration of Wertheim's technic with almost total resection of the uterus.

Deutsche medizinische Wochenschrift, Berlin and Leipsic.

52 (XXXI. No. 41.) Die Behandlung der Gallensteinkrankheit (gallstones). T. Rosenheim. Clinical lecture.
53 Isolierte neuritische Lähmungen von Bauchmuskeln (paralysis of abdominal muscles). O. Minkowski.
54 *Unfall und multiple Sklerose (and trauma). E. Grossmann.
55 *Unterbindung der Venæ spermaticæ und hypogastricæ bei puerperaler Pyämie (ligation in treatment). H. Haeckel.
56 *Ueber Prostatektomie. A. Schlesinger.
57 Ueber isolierte subcutane Fissuren der langen Rohrenknochen (in long bones). K. Porsterling.
58 *Ueber die Spirochæta pallida. C. Hiebert.

54. Trauma and Multiple Sclerosis.—Grossmann describes the case of a strong, young laboring man of 28 who fell from a moderate height while cleaning a window; he was leaning against a wire which broke. He was unconscious for a short time and two days later, when examined in the hospital, exhibited a typical case of multiple sclerosis. His friends had never noticed any indications of anything abnormal before the accident, but it seems impossible for the atrophy of the optic nerve, the "intention tremor" (on attempting voluntary movements), and the differences in the knee jerks to have developed in the course of two days. The multiple sclerosis must evidently have developed in two phases. In the first it remained latent and did not interfere with the man's working capacity. With the trauma the affection entered its second, severer phase. The man did not mention the accident, and it was only learned accidentally later. The case illustrates the way in which trauma can exaggerate an existing multiple sclerosis, but it also casts doubt on the assumption that trauma alone is able to induce the affection.

55. Ligation of Ovarian and Hypogastric Veins in Puerperal Pyemia.—Haeckel comments on the 4 cases of this procedure that have been published since Trendelenburg first suggested it. Michels reported one, and Bumm has recently published another successful case. Haeckel applied it in the case of a woman of 42 who presented evidences of pyemia after the removal of a vesicular mole. The fever persisted and severe chills recurred every day, but there were no signs of metastatic suppuration and the genital findings were normal, only in the parametrium something resembling a soft worm could be felt. After two weeks of this condition he opened the abdomen on the median line, but found no indications of inflammation or adhesion; all the organs were exceptionally pale, the ovarian and hypogastric veins were visible as soft cords. The peritoneum was incised over the right ovarian vein and the vein was ligated with a fine silk thread. The incision in the peritoneum was then extended, the ureter and the hypogastric artery were drawn aside and a fine silk ligature was thrown around the right hypogastric vein. The subserous tissue was a little tougher and less easily pushed aside than in normal conditions. The veins on the left side were then ligated in the same way, the incision in the peritoneum was closed with a running suture and the abdominal wound was closed by three tiers of sutures. The next morning there was a single, comparatively feeble chill and no more for two weeks, when there was a slight intimation of one, but the general health rapidly recuperated after the operation, and in less than six weeks the patient was regarded as cured. Except for a slight, transient swelling of the right leg no local reaction from the ligatures was observed. The operation does not remove the focus, but merely prevents the deportation of infectious material from it to other parts of the body. The focus has to be absorbed, and until this is completed there is a possibility that some small collateral route may convey some of the material into the veins and thus at times induce slight temperature. The conditions are much less favorable when the pyemia is of the acute puerperal form. The process in the veins in this case is not so much thrombosis as ulceration of the vein wall, and the germs are much more virulent. In a typical case of the latter kind he performed the same operation, but it had no effect on the temperature and chills. Bumm, however, has been successful in one case of this kind. In the chronic form, in appropriate, carefully selected cases, ligation of the ovarian and hypogastric veins may cure the patient and prove an important progress in the treatment of such cases.

56. Prostatectomy.—Schlesinger's article issues from Israel's surgical service at Berlin. The suprapubic route is preferred there, as the operation is considered simpler, the middle lobes

are more easily reached and the danger of consecutive incontinence is regarded as less, while it discloses stones that might be overlooked with the perineal operation. Total enucleation of the prostate was always accompanied by removal of the prostatic urethra, but it is probable that in many instances it might be possible to spare the urethra, especially when the prostate is large and hard. In such cases there seems to be a membrane of connective tissue between the prostate and the urethra. When the condition of the bladder was good, the suprapubic wound was sutured and a permanent catheter left in the bladder for the only drainage. When the urine was infected an external urethrotomy supplemented the suprapubic operation. The perineal wound always healed without a fistula. In the after treatment the patients are soon allowed to be up and about with the permanent catheter, and it is removed after a time, when conditions allow, and merely reinserted once or twice a day, rinsing the bladder afterward, allowing the urine that escapes through the wound above to trickle into the dressings. Out of 12 cases, 3 were partial prostatectomies. In 2 cases the results were excellent, but in the third there was a complicating bladder stone, and there has been retention since. Catheterization was necessary three times a day; the cystitis has now almost entirely healed. Of the other 9, one patient died three months later from pyelitis; nothing is known of a second, who still had incontinence when dismissed. Two cases were complicated with bladder stones and 2 are still under treatment. The other 4 patients urinate normally without disturbances of any kind. Malignant degeneration was evident in one of the total dozen cases.

58. **Spirochetes in Syphilis.**—Siebert examined 125 patients for spirochetes and failed to find the *Spirocheta pallida* in any of the 46 cases of superficial cancer and other affections, while he found it in 52 out of 66 cases of lues. It was not discovered in a case of malignant syphilis, while specimens were extremely numerous in a case of syphilitic rupia. It was never observed in the blood, and it failed to pass through a porcelain filter.

Deutsche Zeitschrift f. Chirurgie, Leipsic.

Last indexed page 1768.

59 (LXXVIII. Nos. 4-6.) Ueber die Früh-Operation bei akuter Appendicitis. A. Krogius (Helsingfors).
60 Tuberculous Strictures in Intestine.—Zur pathogenese und Anatomie der auf entzündlicher namentlich tuberkulöser Basis entstandenen Darm-Strikturen, nebst Bemerkungen zur Frage der Darmtuberkulose vornehmlich in der Turkei. Wieting (Constantinople).
61 *Peroxale Intubation mit Ueberdrucknarkose (anesthesia under plus atmospheric pressure). F. Kuhn (Cassel).
62 Wirksamkeit des Cholins. A. Exner.
63 Zur Kenntnis der Fractura capituli humeri (eminentiæ capitatæ). H. Lorenz.
64 Zur Frage der Contusions-Exostosen des Oberschenkelknochens (femur). O. Bode.
65 Ueber totale congenitale Luxation der Knie-Gelenke, bei 3 Geschwistern (luxation of knee in 3 brothers and sisters). F. Magnus.
66 Open Treatment of Wounds and Transplantation—Offene Wundbehandlung und Transplantation. O. Bernhard.
67 Zur Behandlung der cicatriciellen Larynx- und Trachealstenose. R. Göbell.
68 Zur Behandlung des Pleuraempyems. A. Martina.
69 Zur Casuistik der tödlichen reflectorischen Anurie beim Menschen nach Nephrektomie wegen einseitiger Nierentuberkulose (fatal reflex anuria after nephrectomy). A. Jenckel.
70 Zur Behandlung der myelogenen Sarkome der langen Röhrenknochen (of long bones). Blecher.
71 Fall von Myxo-Osteochondro-Sarkom der Tibia. O. Seltz.

61. Intubation per Os for Anesthesia Under Increased Atmospheric Pressure.—Kuhn describes and illustrates his instruments and apparatus and a number of clinical cases in which he has applied them. THE JOURNAL has summarized in these columns from year to year his announcements in regard to his technic for introducing the anesthetic directly into the lungs through a tube, thus avoiding all the nose and throat reflexes. Since Sauerbruch invented his method of operating in the air chamber under negative pressure, Kuhn has applied this principle to his intubation technic, but uses plus instead of minus pressure for the purpose. He relates his experiments on himself and in 5 clinical cases. He regards the chloroform-oxygen anesthesia induced by introducing the anesthetic and oxygen directly into the lungs, as a great advance in surgery.

Münchener med. Wochenschrift, Munich.

72 (LII, No. 40, October 3.) *Ueber Beri-Beri und intestinale Intoxikations-Krankheiten im Malaischen Archipel. H. Dürck.
73 *Action of Natural and Artificial Edema.—Einige Wirkungen des natürlichen Oedems und der künstlichen Oedemisirung. E. Joseph.
74 Pylorospasmus mit Magen-Hypersekretion und Tetanie. Jonnesco. One case.
75 2 Fälle von Malta-Fieber. Roosen-Runge (Hamburg).
76 *Zur Diagnostik der Zwerchfell-Hernie (of diaphragm). A. Hera.
77 2 seltene Fälle von subkutaner Sehnenzerreissung (laceration of tendon). F. Bruning.
78 *Kardiolyse bei adhäsiver Mediastino-Perikarditis. Meyer-Westfeld.
79 Dauer des Kurgebrauches in Karlsbad beim Gallensteinleiden (length of Carlsbad course for gallstones). F. Fink.
80 Zur Praxis der Lokal-Anästhesie. C. Muller.
81 Relations Between "Aggressiveness" and Body Substance of Bacteria.—Beziehungen zwischen Aggressivität und Leibessubstanz von Bakterien. O. Bail. (Concluded.)
82 Restriction of Advertising of Secret Remedies.—Zur Verbot der Ankündigung von Geheimmittein. C. Becker (Munich). See pharmacology item page 1670.

72. Research on Beriberi.—Dürck has been making a special study of tropical pathology in the Dutch East Indies. He remarks in regard to beriberi that although we are still ignorant of the agent causing in such a brief space of time such havoc in the nervous and muscular systems, yet one point seems to be established, namely, that the causal agent can not be a living animal or vegetable organism. Until the veil is lifted further, there seems to be little prospect of a rational and successful method of treatment.

73. Action of Artificial Edema in Bier's "Passive Congestion" Therapy.—Joseph remarks that the importance of edema as a prominent factor in inflammation has only recently been realized. In the passive, congestive hyperemia induced by constriction of the limb, the edema that forms is static. He measures the amount of the edema by the displacement of water when the limb is placed in a cylinder of water, before and after the constriction. A float on the surface rises, with the water, along a graduated scale in the side of the cylinder. Each cm. that it rises represents a displacement of 200 c.c. The arm of one patient displaced 1,900 c.c. before constriction and 2,750 c.c. after twenty-two hours, showing an accumulation of 850 c.c. of edema in the arm. After removal of the constricting band and suspension of the arm, the displacement was reduced to 2,300 in three hours, showing that 450 c.c. of fluid had passed out of the arm. The displacement varies during the first few hours after removal of the band, the amount of the edema increasing and subsiding in waves, but never regaining its first extent, and gradually subsiding altogether. The accumulation of fluid stretches the walls of the capillaries and dilutes the toxins. Bacteria are unable to live in solutions of their own toxins, and this is one of the reasons why no bacteria are found alive in fresh edema. Toxins are diluted by the edema to such an extent that they are comparatively harmless for the organism. Another factor in the benefits of artificial edema is that absorption is prevented by the mechanical compression of the vessels by the accumulated fluid, and also by the fact that the parts of the body elsewhere are anemic, owing to the local congestion in the constricted limb. In addition to all these advantages of Bier's method of passive congestive hyperemia in the treatment of acute inflammation and wounds, it has the further point in its favor that the treatment of the lesion can be much simpler and gentler than by other technics. After incision of a phlegmon and application of the constricting bandage to the limb above, part of the accumulating serous secretions finds its way out through the wound. If all escaped this way it would be unnecessary to suspend the limb to promote the subsidence of the edema, but enough pours out through the wound to keep it rinsed with a natural irrigation and rendering tamponing or absorbent dressings superfluous. The frequent and painful manipulations necessary to prevent the union of the edges of the wound in severe infections are spared the patient treated with congestive hyperemia. This leaves the wound in peace, and this peace allows the tender structures to recuperate without injury. Under other conditions they suffer from the changing of dressings and absorbent applications, and are liable to fall a prey to necrosis. In conclusion, he remarks that the artificial edemization is only a single factor in the general effect of artificially induced congestive hyperemia. Bier calls the method "Stauungs-Therapie"; "Stauung" means the stowing away of a cargo in a ship, but it is applied to engorgement of any kind, and hence to passive congestion.

76. Diagnosis of Hernia of the Diaphragm.—Herz had occasion to observe a case of hernia of the diaphragm in which the descending colon, especially the splenic flexure, rose during inspiration and sank during expiration. He regards this symptom of paradoxical respiration as important for the differentiation of hernia from eventration of the diaphragm. The patient was a man of 30, always healthy, until two years previously he noticed that he was becoming corpulent, perspired more freely and suffered occasionally from dyspnea on exertion. One day he experienced great dyspnea while walking, and coughed considerably. These symptoms becoming more severe, he entered the hospital, complaining of a sense of oppression in the chest, especially at the lower third of the sternum. The percussion findings are illustrated. Herz differentiates the case as one of congenital hernia of the diaphragm with a large defect. The stomach is in its normal place. Lager found in 266 cases of hernia of the diaphragm in which several organs were involved that the stomach was in the hernia in 161 cases and the colon in 145, while in 53 cases in which only one organ was involved the stomach was implicated in 27, the colon in 13, the small intestine in 6 and the omentum only once.

78. Cardiolysis in Mediastino-Pericarditis with Adhesion.—Meyer-Westfeld states that besides Brauer's 3 cases and Beck's 3 there is only one other case on record in which an operation was undertaken for the relief of adhesive mediastino-pericarditis. He here describes an eighth case. The results of surgical intervention have invariably been good, accomplishing much more than could be anticipated from medical measures. In his case, the benefit was apparent in the complete subsidence of the symptoms of general stagnation, in the improvement of the symptoms of pseudo-cirrhosis of the liver, the stronger pulse and blood pressure, the vanishing of the relative insufficiency of the mitral valve, and, above all, in the return of an appreciable reserve force in the myocardium. This success is due only partially to the direct relief of the heart by the operation. This consisted in removal of the ribs covering the heart, resecting the fourth and fifth ribs from their attachment to the sternum to the region of the anterior axillary line. The heart thus released from its bonds rapidly recuperated, and soon threw off the disturbance manifested by the relative mitral insufficiency.

Therapie der Gegenwart, Berlin.

Last indexed page 1529.

83 (XLVI, No. 10, October.) *Congestive Hyperemia in Treatment of Throat Affections.—Ueber die Behandlung akuter Halsaffektionen mittels Stauungshyperamie. H. Hochhaus.
84 *Utilization of Sugar in Enemata.—Ausnutzung von Zuckerklystieren im Körper des Diabetikers. A. Bingel.
85 *Asphyxie (Scheintod) und Tubage. F. Kuhn.
86 Verwendung und Einflüsse des Stickstoffoxydul auf den Organismus (laughing gas). R. Müller.
87 *Zur Prophylaxe und Abortivebehandlung der Gonorrhœ. R. Sondermann.

83. Treatment of Acute Throat Affections with Bier's "Congestive Hyperemia."—Hochhaus has treated 36 patients with diphtheria, 12 with ordinary sore throat and 7 with erysipelas by strapping a rubber band around the neck. Unmistakable benefit was derived in every case, he says, most pronounced in the diphtheria cases. Among the typical instances he reports is that of a child of 5 with pains in the neck and croupy cough for twenty-four hours. The tonsils were covered with false membrane. Antitoxin was injected and the strap applied to the neck. The false membrane was thrown off the third day, the child being dismissed completely well by the twelfth day. A young man with the same symptoms was treated with the congestive hyperemia alone and was dismissed cured in a week. In cases of erysipelas the process seemed to be arrested by the rubber band around the neck, and the patients could be dismissed in from three to five days.

84. Utilization of Sugar Enemata in Diabetes.—The sugar in an enema vanishes from the fluid in a short time, and it has been supposed that it is absorbed by the intestine. Bingel here presents evidence to show that the vanishing of the sugar can be explained by fermentation processes. Probably very little has been absorbed. In none of his tests could he trace the influence of sugar on the elimination of sugar or of nitrogen.

85. Intubation in Asphyxia.—Kuhn protests against the application of the term asphyxia—which means arrest of the pulse—to arrest of the respiration. His method of intubation per os for artificial respiration, with introduction of air or oxygen under pressure above that of the atmosphere, has proved in his hands a wonderful technic for resuscitation in cases of apparent death. Dogs continue to breathe tranquilly and normally with both sides of the thorax open when the air is supplied to their lungs under plus pressure, but the moment the supply of air is cut off their lungs collapse and they apparently die. If the stopcock is turned and the air or oxygen is allowed to flow into the lungs once more, they expand at once, and if the heart has not ceased beating entirely the animal promptly revives. In the prevention of chloroform asphyxia, the pulse is an unreliable guide as, when it varies, the trouble is already too far advanced. As a rule, chloroform asphyxia is due to hindrance in the intake of air, and Kuhn thinks that the falling back of the tongue or of the jaw or other mechanical blunder is responsible for the large majority of such cases, and wonders that it does not occur oftener. The intake of air becomes insufficient and gradual carbonic acid gas intoxication results. The respiration is of much more importance than the pulse for the anesthetist. If absolutely free respiration is ensured, the dangers of anesthesia become reduced to the minimum at one stroke. This is ensured, he proclaims, by administering the anesthetic through a tube passing into the upper air passages and extending through the nose or mouth. He is convinced that intubation should be one of the indispensable preliminaries to anesthesia, or at least, that the tube should be at hand, ready for emergencies. It should also be used at once in all cases of arrest of respiration from mechanical or chemical causes. It is easily introduced in an asphyxiated person, and allows immediate artificial respiration with oxygen or not as indicated. In case of drowning, the pelvis should be raised and the head allowed to hang over backward. The tube is introduced through the mouth, and this allows aspirated fluids to escape, while it ensures free respiration as physical measures to induce artificial respiration are instituted. In case of chemical asphyxia, the tube allows the introduction of oxygen, the measure most urgently indicated. Venesection, infusion and massage of the heart are valuable adjuvants. In short, this method of intubation is the alpha and omega of prevention of asphyxia and of resuscitation in cases of apparent death. Kuhn's tube has a shoulder which prevents it from being bitten by the teeth and also prevents it from slipping in too far. See also 61 above.

87. Prevention and Treatment of Gonorrhea.—Sondermann applies aspiration to the urethra, followed by rinsing, and has found the combination remarkably effectual in preventing and curing infection. The cannula is perforated; it screws into the center of a rounding skeleton frame a little wider and longer. The top of the cannula is connected with a suction pump on the right and with a jar of water or some medicated fluid on the left. When the stopcock between the jar and the cannula is closed and the suction bulb squeezed, air is aspirated through the cannula out of the urethra and hyperemia is induced, while all the secretions are drawn away and the remotest crevices cleansed. By turning the stopcock, water flows into the urethra and is aspirated out by the pump, thus producing a constant outward flow. He gives an illustration of the simple combination of cannula, skeleton frame, the two jars and the rubber bulb. It has demonstrated its efficacy in prophylaxis of gonorrhea and also in aborting early cases, and it has even effected a cure in one chronic case in his experience.

Wiener klinische Wochenschrift.

Last indexed page 1699.

88 (XVIII, No. 31.) *Liver in Protection Against Poisons.—Ueber die entgiftende Funktion der Leber. C. J. Rothberger.
89 Ueber Spirochätenbefunde im syphilitischen Gewebe. L. Spitzer.
90 *Weitere Beiträge zur Radiometrie. L. Freund and M. Oppenheim.
91 (No. 32.) *Beitrag zur Kenntnis der Herz Dilatation (of heart). A. Selig.
92 *Zur Radium Behandlung des Skleroms. O. Kahler.
93 (No. 33.) *Einfluss der Röntgenstrahlen auf den Verlauf der Leukämie (mit besonderer Berücksichtigung der Blutbefunde). M. Franke.

94 Zur Kasuistik der multiplen primären Karzinome. J. Richter.
95 Ueber Cytodiagnostik des Kolostrums. E. Zuckerkandl.
96 *Zur Behandlung interstitieller Erkrankungen. Fälle von Tabes dorsalis und Myelitis chronica, mit Keratin behandelt. S. M. Zypkin. (Commenced in No. 32.)

88. Protecting Action of Liver.—In Rothberger's experiments on dogs, the animals remained in good health after the liver had been excluded from the circulation by tying off the portal vein. This occurred even when the animals were fed exclusively on meat. Experiences like these shake the foundations of the theory that the liver is the main agent in protecting the organism against toxins from the intestine. If the poisons generated in the intestine do not affect the general organism, he says, we have not the liver to thank for this as much as has been previously supposed. The walls of the intestine probably do not allow the poisons to pass through them.

90. Radiometry.—Freund and Oppenheim assert that the chemical appliances which measure the penetrating power of the Roentgen rays behave differently under varying temperatures. All tests to determine the chemical efficiency of the Roentgen rays, therefore, should be made at a standard room temperature, to enable the results to be compared. A temperature of 18 C. (65 F.) they suggest as a good standard. They further assert that biologic effect of the rays does not always parallel the findings of the radiochromometers.

91. Dilatation of the Heart.—Selig has been studying the effect of climbing stairs as a test of 40 patients with dilatation of the heart. Comparison of the findings showed that neither the blood pressure nor the pulse rate afforded such accurate information in regard to the functional capacity of the heart as the general aspect of fatigue. The appearance of exhaustion is more conclusive than any symptom. He was surprised to find so many of his patients still capable of considerable exertion without exhaustion, especially those who would be classed as cases of "congestion" dilatation. He believes that there must be another kind of dilatation besides that due to distension from defective contraction and that due to distension from over-supply of blood. The patients with dilatation who yet are capable of considerable effort without exhaustion must belong to this other category. He examined four football players after hard games and found that the blood pressure had dropped from 20 to 45 mm. mercury, and that the pulse had increased by 21 beats, while the apex beat had changed its location by 1.5 cm. in two of the players, and three had considerable albuminuria. None was cyanotic or exhausted, and yet Selig accepts the symptoms described as signs of incipient heart incapacity. Similar symptoms are observed in cases of valvular defect and arteriosclerosis after exertion, but in this case the patients all appear exhausted after exertion.

92. Radium Treatment.—Kahler gives illustrations of a case in which great improvement was obtained by combining exposures to radium with the usual measures. The accessible parts were treated with Roentgen rays, while the interior of the nose healed under the radium rays.

93. Influence of Roentgen Rays on Course of Leukemia.—Franke reports the details of 4 cases of leukemia treated by Roentgen exposures of the spleen alone. The results were strikingly beneficial, but not enduring. It is impossible to speak of a cure, but the results surpass anything ever realized before, so that Roentgen treatment should be instituted, he thinks, as a routine procedure in all cases of myeloid as well as lymphoid leukemia. He ascribes the improvement observed to the destruction by the rays of the leucocytogenetic tissue in the spleen. This destruction is followed by a reduction in the number of leucocytes in the blood and in the size of the spleen.

96. Keratin in Treatment of Interstitial Affections.—Zypkin became impressed with the possibilities of keratin in therapeutics during the course of some experiments on mice in regard to the synthesis of albumin bodies out of albuminoids. He used keratin and glutin principally in his experiments, and found that keratin seemed to prevent the proliferation of connective tissue which was observed in the course of his research in the animals not ingesting keratin. He describes the various premises which led him to the conclusion that the animal organism has the faculty of synthetically binding keratin with glutin (the main constituent of connective tissue), and hence that keratin might prove effectual in the clinic in treatment of interstitial affections of various parenchymatous organs. He has applied this treatment in 4 cases, commencing with chronic affections of the central nervous system, as the slightest variation in the intensity of the pathologic anatomic process becomes clinically manifest in such cases much more perceptibly than in interstitial affections of other organs. The results answered his expectations. Three tabetics and one patient with chronic myelitis took ten or more keratin tablets a day for several months, and the improvement was actually striking in some and marked in all. He explains the benefit as due to the binding of the glutin in the connective tissue by the keratin, which permits the reabsorption of the new-formed connective tissue. The idea that keratin is not dissolved in time in the stomach is a mistaken one, he says. In conclusion, he remarks that many infectious diseases are accompanied by extensive parenchymatous changes in the internal organs, and yet the organs regain normal functional capacity afterward. This is due to the regeneration of the parenchymatous cells which proceeds unhindered. If the infectious agent has induced proliferation of the interstitial stroma in the organ, the infectious disease leaves behind it a stationary or progressive affection of the organ. The regeneration of the parenchymatous cells is prevented by compression from the proliferating interstitial tissue. It is especially in such cases that keratin may prove extremely useful, putting a stop to the proliferation of the connective tissue, improving certain symptoms and checking the further progress of the affection or curing it completely in time.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

THE PRACTITIONERS' VISITING LIST (Heretofore known as the Medical News Visiting List) for 1906. A pocket-sized book, containing memoranda and data important for every physician, and ruled blanks for recording details of practice. The 30 weekly, Monthly and 30-Patient Perpetual contain 32 pages of data and 160 pages of classified blanks. The 60-Patient Perpetual consists of 256 pages of blanks alone. Each in one wallet-shaped book, bound in flexible leather, with flap and pocket, pencil and rubber, and calendar for two years, $1.25. Lea Brothers & Co., Philadelphia, 1905.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by H. A. Hare, M.D., assisted by H. R. M. Landis, M.D. vol. IV. December, 1905. Diseases of the Digestive Tract and Allied Organs; Liver, Pancreas and Peritoneum—Anesthetics, Fractures, Dislocations, Amputations, Surgery of the Extremities and Orthopedics—Genito-Urinary Diseases—Diseases of the Kidneys—Practical Therapeutic Referendum. Paper. Pp. 307. Price, $6.00 per annum. Philadelphia: Lea Brothers & Co., 1905.

BABY INCUBATORS. A Clinical Study of the Premature Infant, with Especial Reference to Incubator Institutions Conducted for Show Purposes, by J. Zahorsky, A.B., M.D. Reprinted from a series of Articles in the St. Louis Courier of Medicine, 1905. Cloth. Pp. 125. Price, $1.00 net. St. Louis, Mo.; Courier of Medicine Co., 1905.

LECTURES ON AUTOINTOXICATION IN DISEASE, or Self-Poisoning of the Individual, by Ch. Bouchard. Translated with a Preface and New Chapters Added by T. Oliver, M.A., M.D., F.R.C.P. Second Edition. Cloth. Pp.342. Price, $2.00 net. Philadelphia: F. A. Davis & Co., 1905.

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ANATOMISCHER ATLAS IN STEREOSKOPISCHEN RONTGENBILDERN. 1. Normale Anatome. 1. Abteilung: Knochen und Gelenke. By Dr. Ernst Sommer. Mit 20 Tafeln Würzburg. A Stuber's Verlag (C. Kahitsch), 1906.

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